

1979 PONTIAC OWNERS MANUAL

KEEP WITH CAR AT ALL TIMES

CONTAINS IMPORTANT OPERATING
SAFETY AND MAINTENANCE INSTRUCTIONS



Firebird

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A WORD TO PONTIAC OWNERS. . .

This manual has been prepared to acquaint you with the operation and maintenance of your 1979 Firebird, Esprit, Formula or Trans Am, and to provide important safety information. It is supplemented by a Maintenance Schedule and Warranty Information folder. We urge you to read these three publications carefully. Follow the recommendations to help assure the most enjoyable, safe, and troublefree operation of your car.

While reading this manual, you will notice that some specifications are given in both metric and customary units. Where precise accuracy is not needed, some conversions have been rounded to even numbers for your handy use.

When it comes to service, remember that your Pontiac dealer knows your car best and is interested in your complete satisfaction. Return to your dealer for Guardian Maintenance Service and any other repairs your car may require.

To help dealers handle your needs, Pontiac maintains a number of Zone Offices throughout the country. If you have a problem that has not been handled to your satisfaction, follow the procedure in Section 6, "Owner Assistance".

We thank you for choosing a Pontiac product, and want to assure you of our continuing interest in your motoring pleasure and satisfaction.

Pontiac Motor Division

FOR CONTINUING SATISFACTION, KEEP YOUR GM CAR
ALL GM. GENERAL MOTORS PARTS ARE IDENTIFIED BY
ONE OF THESE TRADEMARKS:



NOTE TO CANADIAN OWNERS:

If preferred, a French Owner's Manual can be obtained from either your Dealer or by writing to General Motors of Canada Limited, Technical Publications Department, Oshawa, Ontario. L1J 5Z6."

Aux propriétaires canadiens:

On peut se procurer un exemplaire de ce guide en français auprès du concessionnaire ou du service des publications techniques, General Motors du Canada Limitée, Oshawa, Ontario L1J 5Z6.



1979 PONTIAC OWNER'S MANUAL

THIS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF THIS CAR. IT SHOULD REMAIN WITH THE CAR WHEN SOLD, TO PROVIDE THE NEXT OWNER WITH IMPORTANT OPERATING, SAFETY AND MAINTENANCE INFORMATION.

Pontiac Motor Division

General Motors Corporation

Pontiac, Michigan 48053

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing. The right is reserved to make changes at any time without notice.

For vehicles sold in Canada, substitute the name General Motors of Canada Limited wherever the name Pontiac Motor Division appears in this manual.

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DRIVER DAILY CHECKLIST**BEFORE ENTERING CAR**

Be sure you know your car and its equipment and how to use it safely.

1. See that windows, mirrors, and lights are clean and unobstructed.
2. Check whether any tire is low or flat. (If any tire appears different than normal, we recommend you check it with a tire pressure gage.)
3. Check that all lights work.
4. Look for fluid leaks.
5. Be sure everything is properly stowed.
6. Check area behind car if about to back up.

BEFORE DRIVING OFF

1. Lock all doors.
2. Adjust seat and head restraints.
3. Adjust inside and outside mirrors.
4. Fasten seat belts.
5. Check that warning lights work as key is turned to "Start."
6. Check all gages (including fuel).
7. Release parking brake (and see that "Brake" light turns off).

GUARD AGAINST THEFT

For tips on how to protect your car and its contents, see the "Steering Column Controls" section of this manual.

KEYS

Two different keys are provided for the locks on your car. The key code is stamped on the "knock out" plug in each key head.

- Key with square head (letter "A") - for ignition lock only.
- Key with oval head (letter "B") - for all other locks.

For vehicle security:

- Record key code numbers; then knock plugs out of keys.
- Keep the key codes in a safe place such as your wallet, **not in the car.**



If the original keys are lost, duplicates can be made using the key codes. Contact any GM dealer or a locksmith.

If you park in an attended lot, separate and leave your square-head ignition key only. Lock your glove box and take the oval-head key with you. This will help prevent any illegal entry into the glove box and trunk compartments.

CAUTION: For safety's sake, always lock the doors when driving. Along with proper use of the seat belts, locking the doors helps prevent occupants from being thrown from the car during accidents. It also helps prevent unintended opening of the doors and helps keep out intruders when stopped.

STOWING THINGS IN (OR ON) THE CAR

CAUTION: Luggage or other cargo should not be piled higher than the seat backs. The filler panel between the rear seat back and the rear window should not be used to carry objects—even those that are small and light. All items should be secured in place. This will help keep such things from being thrown about and injuring people in the car in an accident. Cargo weight, whether inside or on the roof, should be positioned as far forward as possible for better vehicle handling.

INSIDE REARVIEW MIRROR

The mirror can be adjusted up, down, or sideways to obtain the best view to the front and rear. Move the mirror lever to the night position to reduce glare from headlights of vehicles behind you.



REMOTE CONTROL OUTSIDE MIRROR

The remote control lever for the **left-hand outside rearview mirror** is located on the forward section of the left interior door trim panel. Simply move the lever in the desired direction to adjust the position of the mirror.

Adjust the outside mirror so you can just see the side of your car in the side of the mirror closest to the car. This helps you determine your relation to objects seen in the mirror.



CONVEX MIRROR

Your car may have an optional convex outside right hand rearview mirror. (A convex mirror has a curved surface.) Adjust the convex mirror so you can just see the side of your car in the portion of the mirror closest to the vehicle. This type of mirror is designed to give a much wider view to the rear and especially of the lane next to your car. However, cars and other objects seen in a convex mirror will **look** smaller and farther away than those seen in a flat mirror. Therefore, use care when judging the size or distance of a car or object seen in this convex mirror. Use your inside mirror to determine the size and distance of objects seen in the convex mirror.

MANUAL BUCKET SEAT ADJUSTMENT

The front seats may be adjusted forward or rearward by moving the control lever at the front of the seat. Release the locking mechanism; then exert slight body pressure to move seat to desired position. Release control lever to lock seat in desired position.

NOTICE: Do not adjust a manually operated driver's seat while the car is moving. The seat could move suddenly and unexpectedly and could cause the driver to lose control of the car.

After adjusting a manually operated seat, push forward and backward on the seat to be sure the seat adjusters have latched. Take the car to your dealer for service if you find that your seat adjusters do not latch.



FRONT SEATBACK LATCHES

This car has front seatback latches designed to hold the seatback upright when properly latched. The release lever is located at the bottom, on the outboard side of each front seatback. To tilt the seatback forward, lift the latch release lever. When the seat is returned to the upright position, the seatback is designed to latch by itself.

Keep seat belt webbing and hardware clear of seat parts when you tilt folding seats forward or backward. This helps prevent damage to these belt systems.

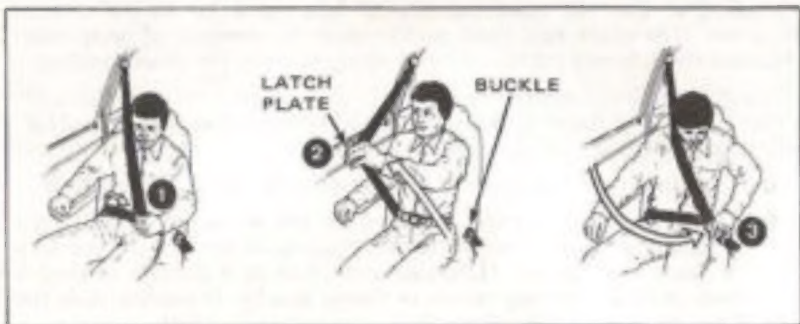


SEAT BELTS

To help lessen the chance of injury and/or the severity of injury in accidents or sudden stops, General Motors urges that people riding in the car be properly restrained at all times, using the seat belts provided. This includes women who are pregnant, and children of all ages. See following pages for use of restraints by children and pregnant women.

FRONT SEAT LAP-SHOULDER BELT

- Adjust the front seat as needed and sit up straight and well back in the seat.
- There are a number of ways the lap-shoulder belt may be put on easily. For example...
 - The lap-shoulder belt may be put on using one hand by: (1) Holding the latch plate and pulling the belt as far as it will reach across your waist (see illustration). (2) Then, hold the latch plate at a right angle to the webbing. At the same time slide it up the belt by raising it toward the upper outside corner of the windshield. (3) Finally, pull the latch plate down across the body and push it into the buckle until it clicks.
 - One easy two-handed method is to hold the webbing just behind the latch plate using the nearest hand. Then bring it down across your body. While holding the webbing taut with one hand, slide the latch plate up the belt with the other hand. Finally, hold the latch plate and push it into the buckle until it clicks.
- Position the "lap" portion of the belt across the lap as **low on the hips** as possible. Then adjust to a **snug fit** by holding the "shoulder" portion of belt and pulling it **UPWARD** through the latch plate, until the lap portion is snug across the lap. This reduces the risk of sliding under the belt during an accident.



CAUTION: A snug fit with the lap belt positioned low on the hips is necessary to help lessen the chance and/or severity of injury in an accident. This spreads the force of the lap belt over the strong hip bone instead of across the soft abdomen. To help lessen the chance and/or severity of injury in an accident: never use the same belt for more than one person at a time; do not wear belts twisted; and do not let belts or belt hardware become damaged by pinching them in the seat or door.

- The shoulder portion of the front seat belt is designed to lock **only** during a sudden stop or impact. At other times it is designed to move freely with the person.



- For those who find the shoulder belt too snug, belt pressure against the chest can be reduced by using the tension reliever built into the retractor. To use this feature: (A) Start by pulling the shoulder belt outward far enough so that when you let go, it returns to the chest (Step "A" in the figure). (B) Then adjust the belt tension by pulling down slightly on the shoulder portion of the belt and letting go (Step "B" in the figure). The **least** amount of belt possible should be pulled from the retractor (about one inch) to minimize belt pressure.
- To release the tension reliever and get rid of slack, pull the shoulder belt out and let it retract. Or lean far forward and then back.

CAUTION: Use the least amount of belt slack to minimize belt pressure. Too much belt slack could reduce the amount of protection because the belt may not be able to properly restrain you in an accident.

Do **not** wear the shoulder portion of the belt under your outer arm or otherwise out of position. Such use could increase the chance and/or the severity of injury in an accident.

- To unfasten the belt, push in the button in the center of the buckle.
- The retractor is designed to rewind the belt when the shoulder belt is pulled outward about six inches. Pulling on the belt is necessary to cause it to retract. Hold the latch plate as it retracts to keep it from possibly striking people or things nearby. If needed, slide the latch plate down the webbing to let the belt retract fully.

RESTRAINT OF PREGNANT WOMEN

General Motors urges that pregnant women use a lap-shoulder belt whenever one is present. This will help lessen the chance of a pregnant woman and her unborn child being injured and/or will help reduce the severity of their injury in an accident. The lap belt should be used alone if a shoulder belt is not present. In either case, the lap belt should be worn as low and snug over the hips as possible, as advised for regular seat belt use (see the preceding instructions).

SEAT BELT LIGHT/BUZZER REMINDER

- When the key is turned to "Run" or "Start", a reminder light is designed to come on for four to eight seconds. It is to remind riders to fasten their seat belts.
- If the driver's seat belt has not been buckled before turning the key to "Run" or "Start", a buzzer is designed to sound for four to eight seconds (or until buckled) as a reminder.

If the seat belt or reminder system does not work as described, see your dealer for service.

LAP BELTS FOR REAR SEAT PASSENGERS

- Rear seat lap belts have retractors which are designed to take up extra webbing automatically.
- In a single motion, pull the rear seat outboard lap belt across the lap far enough to push the latch plate into the buckle, until it clicks. If the belt is not pulled out far enough to reach the buckle, let the lap belt rewind fully into its retractor. This unlocks it so the belt can be pulled out to the proper length.
- These belts should be positioned, worn, and released as described above under "Front Seat Lap-Shoulder Belt". After fastening, check that the belt is **snug** by pulling the belt firmly across the lap toward the lap belt retractor. This will allow the retractor to take up slack.

ADDITIONAL REAR SEAT SHOULDER BELTS

Offered as an accessory at your dealer.

- When properly worn with a lap belt, a rear seat shoulder belt can give riders added protection. It can prevent or reduce impact with the insides of the car by restraining the upper body in a collision. This is especially true in a frontal impact.
- To use the detachable shoulder belt, place the knob on the shoulder belt end in the "keyhole" on the lap belt latch plate (**before** the lap belt is fastened). Tilt the knob as needed to pass it through the slot. Pull the knob firmly upward to seat it at the narrow end of the keyhole. Then fasten the lap belt. Do this in reverse when taking off the shoulder belt and putting it away.
- Detachable shoulder belts can be made shorter by pulling on the end of the belt coming from the adjustable latch plate.
- To make a detachable shoulder belt longer, place the adjustable latch plate at a right angle to the belt webbing and pull on the latch plate. The belt should then slide easily.
- The detachable shoulder belt should have enough slack to put a fist's width between your chest and the belt. This can be checked by putting a clenched fist between the belt and your chest. (Place thumb side of fist against chest with back of hand up.)

CAUTION: Use the least amount of belt slack to minimize belt pressure. Too much belt slack could reduce the amount of protection because the belt may not be able to properly restrain you in an accident.

Do **not** wear the shoulder belt under your outer arm or otherwise out of position. Such use could increase the chance and/or the severity of injury in an accident.

SEAT BELT INSPECTION

- Now and then check that belts, buckles, latch plates, retractors, reminder systems, guide loops, and anchors work properly. Also check for damage that could keep the restraint system from doing its job.
- Keep sharp edges and damaging objects away from the belts and other parts of the restraint system.
- Replace belts if cut, weakened, or frayed. Also have belts replaced if they have been worn in a collision.
- If there is any question, have parts replaced.
- Keep belts clean and dry.
- Clean only with mild soap and lukewarm water.
- Do not bleach or dye belts since this may badly weaken them.

CHILD RESTRAINT

Children in cars should be restrained to help lessen the chance and/or

severity of injury in accidents or sudden stops. General Motors dealers offer restraint systems designed by GM for use with infants and small children. For babies up to 20 pounds, General Motors recommends use of the GM "Infant Love Seat." For children weighing 20 to 40 pounds, up to 3 feet-4 inches in height, and who are able to sit up alone, General Motors recommends use of the GM "Child Love Seat."

In using any infant or child restraint system, be sure to read and follow all instructions on installation and use that come with the restraint system.



If a child is riding in a car without a General Motors (or other) infant or child restraint system, take care as follows:

1. Infants who cannot sit up by themselves should be restrained by placing them in a bassinet, preferably covered and padded. Place it crossways in the car (widthwise) on the rear seat. The bassinet should be securely restrained with the car's regular seat belts. Another method is to place the bassinet so that it rests against the back of the driver's seat, again crossways in the car.
2. Never let a child stand or kneel on any seat. Children who can sit up by themselves should be placed on a seat and restrained with the seat belts provided. When children ride in a rear seat, they should be restrained with a lap belt. When children ride in the front seat, both lap and shoulder belt should be worn. If the shoulder belt irritates neck or face due to the child's size, this may be reduced by



placing the child closer to the center of the car. If irritation is not reduced, place the child in the rear seat.

3. General Motors advises that children should be restrained properly when riding. However, unusual conditions may prevent use of restraints, and require that a small child stand. If that happens, the child should stand on the floor behind the **driver's** seat. This will help reduce the chance of being hurt by a frontal force impact in case of an accident.

DOOR LOCKS

- Lock doors from inside by depressing door lock buttons on upper door panels.
- Lock doors from outside by first depressing lock button then closing door.
- Doors can also be locked from outside by using key.

All models have as a standard safety feature overriding door locks. When the doors are locked, both the inside and outside door latch mechanisms are inoperative, thus preventing inadvertent opening of the door by movement of the inside handle.

ELECTRIC DOOR LOCKS

All doors may be locked or unlocked by operating the switch marked "LOCK," located on door trim pad on cars equipped with electric door locks.

The automatic locking mechanism does not at any time interfere with manual operation of any door lock button. The doors will not unlock or open with the inside door handle when the lock button is depressed, but can be unlocked individually by lifting the lock button.



SUN VISOR ADJUSTMENT



- Grasp visor by the top edge and pull downward to position in upper portion of windshield.
- Remove visor from its retainer (if equipped), pull top edge down, and swing visor to one side to position at side window.
- Adjustment of screw at pivot point will loosen or tighten visor on its shaft.

POWER WINDOWS

Optional power windows will operate only when ignition switch is in the "RUN" position. A master control is provided at the driver's position, and will operate all door windows. An individual switch is provided under each door window for passenger use.



TRAILER TOWING

This car is designed and intended to be used mainly to carry people. Towing a trailer will affect handling, durability and economy. Your safety and satisfaction depend upon proper use of correct equipment. Also, you should avoid overloads and other abusive use.

CAUTION: Do not attempt to tow any trailer over 1000 pounds (450 kilograms) gross trailer weight no matter what trailer towing equipment is installed. This could seriously affect your car's performance, durability or handling, which could result in personal injury.

Information on trailer towing ability, special equipment required, and optional equipment should be obtained from your dealer.

Tires

When towing trailers, tires should be inflated to the "Cold Tire Pressure" for "Max. Load" shown on the Tire Placard on the left front door.

The allowable passenger and cargo load for this car, also shown on the same placard, is reduced by the trailer tongue weight whenever the trailer is attached to the car.

Maintenance

More frequent service is required when using your car to pull a trailer. Refer to Section A of the Maintenance Schedule folder for Automatic Transmission Fluid, Engine Oil, and Rear Axle Lubricant change requirements for trailering.

Now and then check that all trailer hitch bolts and nuts are tight. Also, see the Index in this manual and the Maintenance Schedule folder for important facts on belts, cooling system care and brake adjustment.

Break-In Schedule

See the new car break-in instructions in this manual. Also, we recommend you drive your new car for 500 miles (800 kilometres) before trailer towing. At the end of this 500 mile break-in period, speeds over 50 mph (80 km/h) and full throttle starts should be avoided during the first 500 miles (800 kilometres) of trailer towing. If a new engine, transmission or axle is installed in your car, the same car should be observed.

CAUTIONS:**Brakes**

To help avoid personal injury due to poor braking action:

- Before going down a steep or long grade, reduce speed and shift transmission into a lower gear to control your car's speed. Try not to hold the brake pedal down too long or too often. This could cause the brakes to get hot and not work as well.

Hitches

To help avoid personal injury due to sway caused by such things as crosswinds, big trucks passing and road roughness, or due to separation of the trailer:

- Keep the trailer tongue load at 10% of the loaded trailer weight for dead-weight hitches. Tongue loads can be adjusted by proper distribution of the load in the trailer. This can be checked by weighing separately the loaded trailer and then the tongue.
- When you remove a trailer hitch, be sure to seal any mounting holes in the body. This will help prevent entry of exhaust fumes, dirt or water. See "Engine Exhaust Gas Caution (Carbon Monoxide)" at the beginning of Section 2.

NOTICE: Use only trailer hitches which permit normal operation of the Energy Absorbing Bumper system, if so equipped. For example, a rigid fore and aft connection between the bumper and any other part of the car may increase damage in the event of a collision.

TRAILER TOWING TIPS**Getting Started**

Before entering traffic with a trailer equipped with electric brakes, start the car and trailer moving and apply the trailer brakes by hand to be sure the trailer brakes are working and the trailer electrical system is connected.

Engine Cooling

In case your engine overheats, see "Engine Coolant" in the "In Case of Emergency" section of this manual.

Long Uphill Grades

When going up long grades, you can reduce the chance of engine overheating by down-shifting the transmission to a lower gear and reducing speed to 45 mph (70 km/h) or below.

Transmission

See the method for checking transmission fluid level in the "Service and Maintenance" section of this manual.

Parking

You should not park cars with trailers on a grade (hill). However, if you must park on a grade, these steps must be followed:

1. Apply regular brakes.
2. Have someone place wheel chocks under trailer wheels.
3. When wheel chocks are in place, release regular brakes until chocks absorb load.
4. Apply parking brake.
5. Place transmission in "Park".

If the car is parked on a grade, don't shift the transmission lever to "Park" until the trailer wheels are chocked and the parking brake is set. If you do, the weight of the car and trailer may exert so much force on the parking pawl in the transmission that it may be hard to get the shift lever out of "Park".

When starting, after being parked on a grade:

1. Apply regular brakes and hold until steps 2 and 3 below are completed.
2. Start engine in "Park".
3. Shift into gear and release parking brake.
4. Release regular brakes and drive until the chocks are free.
5. Apply regular brakes and have helper remove chocks.

OPERATION IN FOREIGN COUNTRIES

Your engine is designed to run on unleaded gasoline with an octane rating of about 91, Research method.

If you plan to drive your Firebird, Esprit, Formula or Trans Am outside the U.S. and its jurisdictions or Canada, there is a chance the gasolines available in some countries will not meet the needs of your engine. Low octane rated gasolines may cause engine knocking or serious engine damage, for which Pontiac Motor Division is not responsible.

Using leaded gasoline in a car with a catalytic converter may cause the converter to lose its effectiveness as an emission control. It could also affect the emission warranty. If you must use leaded gasoline in a car designed for unleaded fuel, converter modification and different maintenance intervals will be required. To obtain gasoline information

and a maintenance schedule for the countries in which you plan to travel, write to: Pontiac Motor Division, Customer Services Department, One Pontiac Plaza, Pontiac, Michigan 48053. (In Canada, write to General Motors of Canada Limited, Customer Services Department, Oshawa, Ontario L1J 5Z6.)

When writing, please include:

- the Vehicle Identification Number and
- the countries in which you plan to travel.

Tires

If you plan to use your car in countries where speeds over 75 mph (120 km/h) are permitted, see "Inflation Pressure" under "TIRES" in Section 5 of this manual.

ENGINE EXHAUST GAS CAUTION (CARBON MONOXIDE)

Avoid breathing exhaust gas because it contains carbon monoxide, which by itself has no color or odor. Carbon monoxide is a dangerous gas. It can cause unconsciousness and can be lethal.

If at any time you think that exhaust fumes are entering the car, have the cause determined and corrected as soon as possible. If you must drive under these conditions, drive only with ALL windows fully open.

Protect against carbon monoxide entry into the car body. The best way is to keep the engine exhaust system, car body, and body ventilation system properly maintained. We recommend that the exhaust system and body be inspected by a competent mechanic:

- each time the car is raised for oil change;
- whenever a change is noticed in the sound of the exhaust system;
- whenever the exhaust system, underbody, or rear of the car is damaged.

See your Maintenance Schedule folder for parts requiring inspection.

To allow proper operation of your car's ventilation system, keep the air inlet grille in front of the windshield clear of snow, leaves or other obstructions at all times.

Sitting in a parked car with the engine running for a long time is not recommended.

Do not run the engine in confined areas such as garages any more than needed to move the car in or out. When the car is stopped in an **unconfined** area with the engine running for any more than a short time, adjust the heating or cooling system to force outside air into the car as follows:

1. On cars not equipped with air conditioning, set fan to medium or high speed and upper control lever to any position except "Off".
2. On cars equipped with air conditioning, set fan to medium or high speed and upper control lever to any position except "Off" or "Max".

The trunk lid should be closed while driving to help prevent drawing exhaust gases into the car. If the trunk remain open for some reason while moving, or if electrical wiring or other cable connections to a trailer must pass through the seal between trunk lid and body, these precautions should be followed:

- Close all windows.
- Adjust heating or cooling system to force outside air into car as described in items 1 and 2 above, but with fan set at high speed.
- On cars that have outside air vents in or under instrument panel, open vents fully.

NEW CAR "BREAK-IN" PERIOD

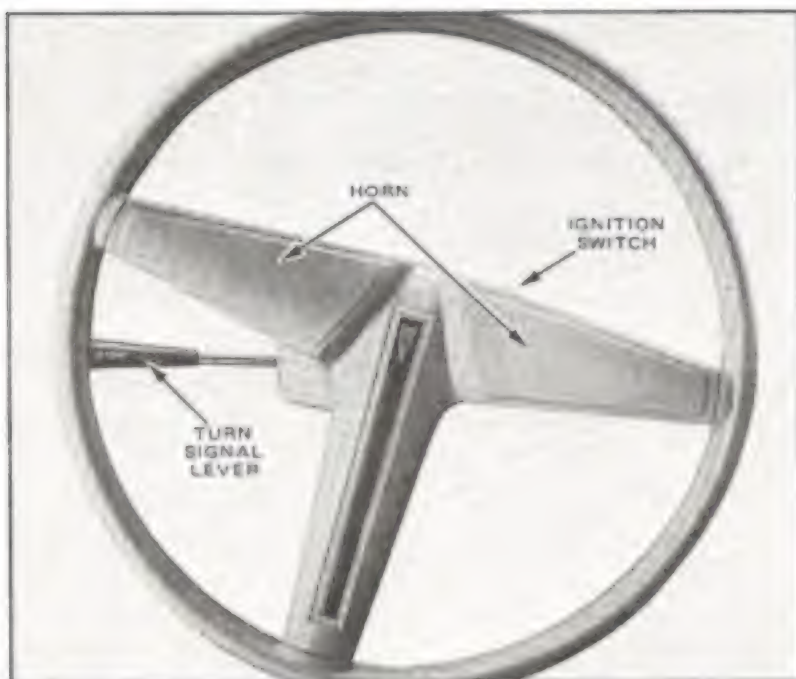
You can drive your new car from its very first mile/kilometre without following a formal "break-in" schedule. However, there are things you can do during the first few hundred miles/kilometres of driving that will add to the future performance and economy of your car.

We recommend you limit your speed during the first 500 miles (800 kilometres) to a maximum of 55 mph (90 km/h); but do not drive for long periods at any one constant speed, either fast or slow. During this time, avoid full throttle starts and, if possible, avoid hard stops especially during the first 200 miles (320 kilometres) of driving.

Always drive at moderate speed until the engine has completely warmed up.

If you plan to use your new car for trailer towing, see additional information under "Trailer Towing" in Section 1.

STEERING COLUMN AND SHIFT CONTROLS

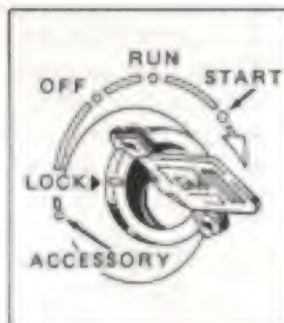


ANTI-THEFT STEERING COLUMN LOCK

The anti-theft lock on the right side of the steering column has five positions:

- **Accessory** - You can use some electrical accessories when the engine is not running. To engage this position, push the key in and turn the top of the key towards you.

- **Lock** - Normal parking position. Locks the ignition and prevents normal use of the steering wheel and shift controls. The key cannot be returned to "Lock" and removed until shift lever is placed in "Park" on automatic transmission models ("Reverse" on manual transmission models).



- **Off** - You can turn the engine off without locking the steering wheel and shift controls
- **Run** - Normal operating position.
- **Start** - Cranks the engine.

GUARD AGAINST THEFT

Your new Firebird, Esprit, Formula or Trans Am has many features to help prevent theft of the car itself, its equipment, and contents. But these anti-theft features **depend upon you** to work.

The time to be most on guard is when leaving the car...

- **Park in a lighted spot when you can.**
- **Lock the steering column and take the keys:**
 - Turn the key to "Lock" and remove the key. This locks the ignition and **both** steering and shift controls.
 - If you must leave a key with the car, leave the square-head key only. Take the oval-head key with you. This will help prevent illegal entry into your car at a later date or into your glove box (if locked) or trunk.
- **Fully close all windows and lock all doors.**
- **Keep costly items out of sight and locked up:**
 - Never leave things of value in plain sight on seat or floor.
 - The glove box offers a place to hide small items and, if locked, protects even better.
 - Lock larger items in the trunk.

NOTICE: Do not park your car over combustible materials, such as grass or leaves. They could touch the hot exhaust system and ignite.

PARKING

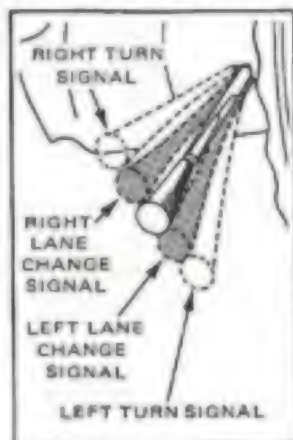
When leaving your car unattended:

- Firmly apply the parking brake. Do not use the transmission as a substitute for the parking brake.
- Place the automatic transmission lever in "Park" ("Reverse" for manual transmission).
- Turn the key to "Lock".
- Remove the key (the buzzer is designed to remind you).
- Close all windows and lock all doors.

TURN SIGNAL AND HEADLIGHT BEAM LEVER

The turn signal lever on the left side of the steering column also controls headlight low-beam or high-beam.

- **Turn Signal** - Move the lever up to the second stop to signal a right turn. Move it down to the second stop to signal a left turn. When the turn is completed, the signal will cancel and the lever will return to horizontal.
- **Lane Change Signal** - In some turns, such as changing lanes, the steering wheel is not turned far enough to cancel the turn signal. For convenience, you can flash the turn signal by moving the lever part way (to the first stop) and holding it there. The lever will return to horizontal when you release it.



A green light on the instrument panel flashes to tell you that the front and rear turn signal lights are working. If the light stays on, but does not flash, check for burned out bulbs. If the green light does not light when you move the lever, check the fuse and indicator bulb.

- **Headlight Beam Changer** - With the headlights on, pull the lever toward you until you hear a "click". Then release it. The lights will change from low-beam to high-beam or from high-beam to low-beam. When the high-beam is on, a blue light will appear on the instrument panel.



STARTING THE ENGINE

1. **Apply the parking brake.** (Be sure to release the parking brake before driving off.)

- 2a. **Automatic Transmission models** - Place the transmission shift lever in "Park" or Neutral "N" ("Park" preferred). A starter safety device is designed to prevent starter operation while the shift lever is in any drive position. (If you need to re-start the engine while the car is moving, place the shift lever in "N".)
- 2b. **Manual Transmission models** - Press the clutch pedal to the floor and shift the transmission to Neutral. Hold the clutch pedal to the floor throughout the starting procedure. A starter safety device is designed to prevent starter operation when the clutch pedal is not fully depressed. (Select the proper gear position before releasing the clutch pedal.)
3. Start the engine as outlined below for different conditions.

Make sure you follow the instructions that apply to your engine. (The Engine Code is the 5th digit of the VIN plate located at the lower left of your windshield. See "Specifications" section for more details.)

NOTICE: Do not keep the starter engaged for more than 15 seconds at a time. Wait 10 to 15 seconds before trying again.

- **ENGINE CODE A** (except engine certified for California emission standards as noted on the emissions label on the radiator support under the hood) :

- **COLD ENGINE** - Press the accelerator pedal to the floor and slowly release it. With your foot off the pedal, crank the engine by turning the ignition key to "Start". Release key when engine starts.

If the engine starts, but fails to run, repeat this procedure.

When the engine is running smoothly (about 30 seconds), you can reduce the engine idle speed by pressing down slightly on the accelerator pedal and then slowly releasing it.

NOTICE: Extended running of the engine (5 minutes or more) without pressing down the accelerator pedal could cause damage to the engine and exhaust system due to overheating.

Do not leave your car unattended with the engine running. If the engine should overheat you would not be there to react to the temperature warning light or gage. This could result in costly damage to your car and its contents.

- **WARM ENGINE** - Press down the accelerator pedal halfway and hold. Crank the engine by turning the ignition key to "Start". Release key when engine starts.
- **Very Cold Weather (Below 0°F or -18°C) Or After Car Has Been Standing Idle Several Days** - Before cranking the engine, fully depress and release the accelerator pedal one or two times more than for "Cold Engine" start. Then, with your foot off the

accelerator pedal, crank the engine by turning the key to "Start". Release key when engine starts.

- **ENGINE CODES A (certified for California emission standards as noted on the emissions label on the radiator support under the hood) and K:**

- **COLD ENGINE** - Press the accelerator pedal to the floor and slowly release it. **With your foot off the pedal**, crank the engine by turning the ignition key to "Start". Release key when engine starts.

If the engine starts, but fails to run, repeat this procedure.

When the engine is running smoothly (about 30 seconds), you can reduce the engine idle speed by pressing down slightly on the accelerator pedal and then slowly releasing it.

NOTICE: Extended running of the engine (5 minutes or more) without pressing down the accelerator pedal could cause damage to the engine and exhaust system due to overheating.

Do not leave your car unattended with the engine running. If the engine should overheat you would not be there to react to the temperature warning light or gage. This could result in costly damage to your car and its contents.

- **WARM ENGINE** - Do not press down the accelerator pedal. With your foot off the pedal, crank the engine by turning the ignition key to "Start". Release key when engine starts.
- **Very Cold Weather (Below 0°F or -18°C) Or After Car Has Been Standing Idle Several Days** - Before cranking the engine, fully depress and release the accelerator pedal one or two times more than for "Cold Engine" start. Then, **with your foot off the accelerator pedal**, crank the engine by turning the key to "Start". Release key when engine starts.

- **ENGINE CODES W, Y AND Z:**

- **COLD ENGINE** - Press the accelerator pedal to the floor and slowly release it. **With your foot off the pedal**, crank the engine by turning the ignition key to "Start". Release key when engine starts.

If the engine starts, but fails to run, repeat this procedure.

When the engine is running smoothly (about 30 seconds), you can reduce the engine idle speed by pressing down slightly on the accelerator pedal and then slowly releasing it.

NOTICE: Extended running of the engine (5 minutes or more) without pressing down the accelerator pedal could cause damage to the engine and exhaust system due to overheating.

Do not leave your car unattended with the engine running. If the engine should overheat you would not be there to react to the temperature warning light or gage. This could result in costly damage to your car and its contents.

- **WARM ENGINE** - Press down the accelerator pedal 1/4 to 1/3

and hold. Crank the engine by turning the ignition key to "Start". Release key when engine starts.

- **Very Cold Weather (Below 0°F or -18°C) Or After Car Has Been Standing Idle Several Days** - Before cranking the engine, fully depress and release the accelerator pedal one or two times more than for "Cold Engine" start. Then, with your foot off the accelerator pedal, crank the engine by turning the key to "Start". Release key when engine starts.

- **ENGINE CODES L AND G:**

- **COLD ENGINE** - Press the accelerator pedal twice to the floor and slowly release. With your foot off the pedal, crank the engine by turning the ignition key to "Start". Release key when engine starts.

If the engine starts, but fails to run, repeat this procedure.

When the engine is running smoothly (about 30 seconds), you can reduce the engine idle speed by pressing down slightly on the accelerator pedal and then slowly releasing it.

NOTICE: Extended running of the engine (5 minutes or more) without pressing down the accelerator pedal could cause damage to the engine and exhaust system due to overheating.

Do not leave your car unattended with the engine running. If the engine should overheat you would not be there to react to the temperature warning light or gage. This could result in costly damage to your car and its contents.

- **WARM ENGINE** - Do not press down the accelerator pedal. With your foot off the pedal, crank the engine by turning the ignition key to "Start". If crank time exceeds three seconds, press down the accelerator pedal to 1/3 of its travel while cranking. Release key when engine starts.
- **Very Cold Weather (Below 0°F or -18°C) Or After Car Has Been Standing Idle Several Days** - Before cranking the engine, fully depress and release the accelerator pedal one or two times more than for "Cold Engine" start. Then, with your foot off the accelerator pedal, crank the engine by turning the key to "Start". Release key when engine starts.

IF ENGINE FAILS TO START

1. Fully depress and release the accelerator pedal several times; then remove foot from pedal and crank the engine by turning the key to "Start".
2. If the engine still does not start, press the accelerator pedal to the floor and hold it there while cranking the engine. This should clear any flooding condition.
3. If the engine has been flooded with too much fuel (as will be apparent from step 2 above), it may start to run but not have enough power to keep running. If this is the case, continue cranking with the accelerator fully depressed until the engine clears itself of excess gasoline and runs smoothly.

OPERATING THE TRANSMISSION

CAUTION: Before going down a steep or long grade, reduce speed and shift the transmission into a lower gear or lower range to control car speed. Try not to hold the brake pedal down too long or too often. This could cause the brakes to get hot and not work as well.

DRIVING ON SLIPPERY SURFACES

Take care when speeding up, or when shifting into lower gear, on slippery surfaces with car moving. Sudden acceleration or engine braking action (due to shifting to a lower gear) could cause the rear wheels to skid.

AUTOMATIC TRANSMISSION

Automatic transmission shift indicators are arranged with "Park" at one end, followed in sequence by Reverse "R", Neutral "N" and the forward driving ranges. Push down on button on floor shift models when shifting into or out of Park and Reverse.

Park

For starting the engine and/or holding the car in locked position.

R (Reverse)

For backing the car.

N (Neutral)

An alternate position for starting engine.

D (Drive)

For all normal forward driving.

S (Super)

For engine braking when descending moderate grades.

L (Low)

For engine braking when descending steep grades when road signs require use of "low gear". Do not exceed 40 mph (60 km/h) in low gear.



NOTICE: The following practices could result in automatic transmission failure:

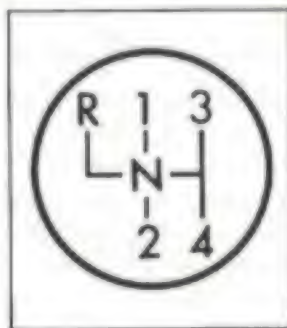
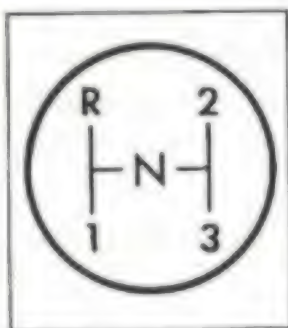
- Shifting between forward and reverse driving range while operating the engine at high speed or heavy throttle, such as when the driving wheels are on snow or ice—commonly called "rocking." (See correct method for "rocking" vehicle in Section 3 under "Freeing Car from Sand, Mud, Snow or Ice.")
- Shifting to Reverse ("R") or any forward range while operating the engine at high speed in Neutral ("N").
- Shifting to "Park" while vehicle wheels are still turning.
- Operating the transmission at or near "stall" condition for periods

of more than 10 seconds. (Stall condition is when the engine is running at high speed while the transmission is in a driving range and the driving wheels aren't moving, such as when stuck in deep sand or when the car is against a fixed barrier.)

- Holding vehicle on an upgrade with the throttle. (Use the regular brakes to hold car on an uphill grade.)

THREE AND FOUR SPEED MANUAL TRANSMISSIONS

The 3-speed and 4-speed floor shift manual transmission shift lever, extending from the floor, has a shift pattern diagram located on the knob.



For smoother performance at slow speeds, the transmission should be downshifted from each gear while the car is in motion by depressing the clutch pedal and manually moving the gearshift lever to the desired position (See Shift Speed Chart).

FIRST GEAR - Depress the clutch pedal, shift into first (1st), and smoothly release the clutch pedal while simultaneously pressing on the accelerator pedal. All vehicles have fully synchronized first gears and may be shifted into first with the car in motion below 20 mph (30 km/h). In the event the car is completely stopped and if it is difficult to shift into first, release the clutch momentarily with transmission in Neutral, and then shift into first.

SECOND GEAR - Depress the clutch pedal, release the accelerator and move the gearshift lever into second (2nd) gear. Release the clutch pedal and depress the accelerator pedal as above.

THIRD GEAR - Shift into third gear (3rd) in the same manner described above. Slowly release the clutch pedal and depress the accelerator.

Third gear of the 3-speed is the cruising gear for all normal driving.

FOURTH GEAR - Shift into fourth (4th) gear in the same manner as described above. Slowly release the clutch pedal and depress the accelerator.

TO STOP - Release the accelerator pedal and depress the brake pedal. Just before the car stops, depress the clutch pedal along with the brake pedal and move the gearshift lever into Neutral.

MANUAL TRANSMISSION TYPE	ACCELERATION SHIFT SPEED					
	1-2		2-3		3-4	
	mph	(km/h)	mph	(km/h)	mph	(km/h)
3-SPEED	20	(30)	30	(50)	—	—
4-SPEED	15	(25)	25	(40)	40	(65)

NEUTRAL - For use when starting or idling the car.

REVERSE - Operate Reverse as first gear but always at a slow speed. The car must be brought to a complete stop before shifting into Reverse.

NOTICE: The following operating precautions should be observed:

- Do not "speed shift"; allow time between shifts for the transmission synchronizers to coordinate.
- Use only "First" gear to accelerate from a stop.
- Always place the gear selector in Neutral and apply the brakes when starting the engine.
- Never leave the car unattended with the engine running.
- Always set the parking brake firmly before leaving the car.
- Do not coast in Neutral (illegal in many states).
- Never "ride" the clutch pedal, as this will cause excessive slippage with resultant wear on the clutch parts.

CLUTCH PEDAL ADJUSTMENT

The pedal should be adjusted at normal service maintenance intervals so that it has some free travel before the clutch actually begins to disengage. The pressure of one finger should be enough to push the pedal in about 1/2" to 1 3/4" before the resistance of the clutch springs is felt. If there is little or no pedal lash, the clutch may be slipping, which will cause it to wear out faster.

If there is too much pedal lash, the clutch may not disengage completely, causing gear shifting trouble. When pedal lash is less than 1/2" or more than 1 3/4", an adjustment should be made by your Pontiac dealer.

POWER STEERING

If the power steering system goes out because the engine has stalled or due to a failure, the car can still be steered. However, much greater effort is needed, especially in sharp turns or at low speeds.

TILT STEERING WHEEL

This optional steering wheel can be adjusted by lifting the control lever on the left side of the steering column, placing the wheel in the desired position and then releasing the lever. There are six positions: three above center, one center position, and two below center. In order to provide easy entry or exit from the vehicle, the wheel should be moved to its uppermost position when leaving the vehicle.



CRUISE CONTROL

The Cruise Control system, an optional automatic speed control system, allows the driver to control his speed over a wide range of operating conditions.

NOTICE: Traveling in high altitudes, up large hills and/or pulling a trailer may affect the Cruise Control's performance as far as maintaining a constant speed.

Within the engine limitations, a speed of 30 mph (50 km/h) or higher can be held, thus increasing comfort and economy on turnpikes, expressways and other non-congested highways.

HOW TO OPERATE - The Cruise Control system can be activated by accelerating to the desired speed, then depressing and slowly releasing the control button located on the end of the turn signal lever.

You may then remove your foot from the accelerator pedal. The car's speed will be automatically maintained.

Car speed may be increased for highway passing and the system overridden simply by depressing the accelerator pedal. The system will automatically return to its previous setting once the accelerator is released.

To permanently increase the speed while the Cruise Control system is engaged, simply accelerate to the desired speed, then depress the control button and release slowly.

DISENGAGEMENT - To decrease the speed once the system is engaged, depress the brake pedal lightly. When the desired



speed is reached, it will be necessary to once again depress the engagement button. Speed reduction may also be accomplished by depressing the engagement button fully and holding it in firmly until the desired speed is reached.

The automatic control system is instantly released by light application of the brake pedal or by turning the ignition system off. Once off, the system will require reactivation through control button engagement.

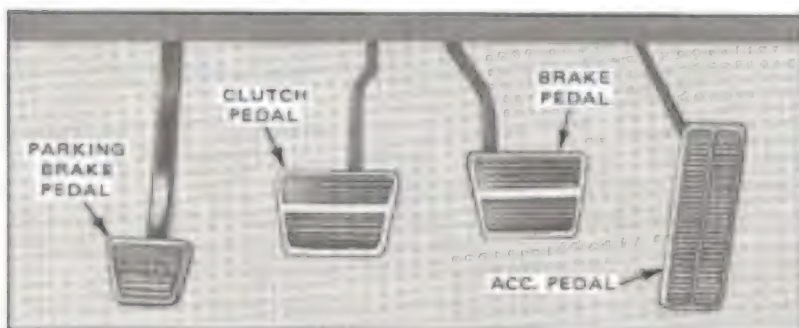
The operation of the turn signal remains the same.

NOTICE: To help keep the car under control, do not use the Cruise Control when it may not be wise to keep the car at a constant speed. A constant speed may not be advisable in conditions such as: heavy or varying traffic, or on winding or slippery roads. With the Cruise Control engaged, taking your foot off the accelerator pedal does not allow the car to slow down.

HAZARD WARNING FLASHER

The hazard flasher is covered in the "In Case of Emergency" section.

FLOOR CONTROLS



BRAKING SYSTEM

The brake system is designed for braking performance under a wide range of driving conditions even when the vehicle is loaded to its full rated vehicle load.

CAUTION: Driving through water deep enough to wet the brakes may cause the brakes not to work as well. As a result the car will not slow down at the usual rate, and it may pull to the right or left. After checking to the rear for other vehicles, apply the brakes lightly to check whether this has happened. To dry them quickly, lightly apply the brakes. At the same time, keep a safe forward speed, with plenty of clear space ahead, to the rear, and to the sides. Do this until the brakes return to normal.

BRAKE WARNING LIGHT

The brake system warning light is covered in the "Instrument Panel" section.

POWER BRAKES

- If optional power assist is lost because of a stalled engine or other reasons, the brakes can normally still be applied with power assist at least two times using reserve power.
- The system is designed to bring the car to a full stop on reserve power if the brake pedal is applied once and held down. However, the reserve power is partly used up each time the brake pedal is applied and released. Do not pump the brakes when brake power assist has been lost, except when needed to maintain steering control on slippery surfaces.
- Without power assist, the car can still be stopped by pushing much harder on the brake pedal. However, the stopping distance may be longer, even though the brakes themselves remain fully operational.

SELF-ADJUSTING BRAKES

- The brakes on this car (except for the parking brake) are self-adjusting. They have been designed so that periodic brake adjustment is not required.
- The drum brakes adjust themselves when the brakes are firmly applied while the car is moving backwards.
- The disc brakes adjust themselves each time the brakes are used.
- If the brake pedal goes down farther than normal it may be due to a lack of adjustment. To find out if this is the case, drive backward and forward a few times, applying the brakes firmly when going each way.
- See your dealer if pedal height does not return to normal, or if there is a rapid increase in pedal travel, which could be a sign of other brake trouble.
- Also see your dealer if the parking brake needs adjustment.

NOTICE: "Riding the brake" by resting your foot on the brake pedal when not intending to brake can cause overheated brakes. This can wear out the brake linings faster and damage the brakes themselves, as well as waste fuel.

DISC BRAKE WEAR INDICATOR

Front disc brakes have a built-in wear indicator that is designed to make a high-pitched squealing or cricket-like warning sound when the brake linings are worn to where new linings are needed. The sound will come and go, or be heard all the time when the wheels are rolling, but will stop when the brake pedal is pushed down firmly. Expensive damage can result if linings are not replaced when needed.

See also the brake checks listed in the Maintenance Schedule folder.

DIMMER SWITCH

The dimmer switch that controls the headlight high/low beam is built into the turn signal control. See the "Steering Column Controls" section.

PARKING BRAKE

- To set the parking brake, fully depress the foot pedal at the far left side.
- For better holding power, first press down the regular brake pedal with the right foot. Then hold it while setting the parking brake with the left foot.
- To release the parking brake, pull the "Brake Release" lever located at the lower left of the instrument panel.
- To help remind you, the brake system warning light is designed to come on if the parking brake control is not fully released and the ignition key is on.
- Never drive the car with the parking brake set as this may overheat the rear brakes reducing their effectiveness and causing excessive wear or damage.



INSTRUMENT PANEL

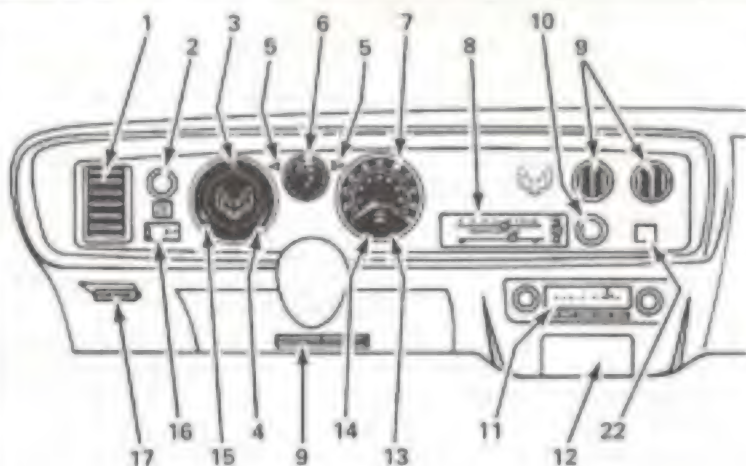
FUEL GAGE

The fuel gage, in operation only when the ignition switch is on, indicates the quantity of fuel remaining in the tank. The far left mark on the gage indicates Empty (E), while the far right indicates Full (F). The needle does not return to empty with the ignition OFF.

Some normal variations in reading will occur, as noted below-

- Needle does not move from Full (F) until substantial distance has been driven.
- Tank is not empty when needle is on Empty (E). A fuel reserve (about two gallons) is designed into the fuel gage system.
- Needle moves when braking, accelerating or making turns. This is caused by fuel movement in the gas tank.
- Needle occasionally indicates less than Full (F) after gas tank is filled. This will occur if the car is not level when filled, or automatic pump nozzle shuts off too soon.





- 1 VENT OUTLET OR
AIR COND. OUTLET*
- 2 HEADLAMP SWITCH
- 3 OIL PRESSURE WARNING
- 4 TEMPERATURE WARNING
- 5 TURN SIGNAL INDICATOR
- 6 FUEL GAGE
- 7 SPEEDOMETER
- 8 HEATER CONTROL PANEL OR
AIR COND. CONTROL PANEL*
- 9 AIR COND. OUTLET*
- 10 CIGAR LIGHTER
- 11 RADIO*
- 12 ASH TRAY
- 13 BRAKE WARNING
- 14 FASTEN SEAT BELTS WARNING
- 15 GENERATOR WARNING
- 16 WASHER/WIPER SWITCH
- 17 BRAKE RELEASE
- 18 CLOCK* OR
TACHOMETER/CLOCK*
- 19 OIL PRESSURE GAGE*
- 20 TEMPERATURE GAGE*
- 21 VOLTMETER*
- 22 ACCESSORY SWITCH LOCATION*

* INDICATES OPTIONAL EQUIPMENT



WITH RALLY GAUGES

BRAKE SYSTEM WARNING LIGHT

The regular brake is a dual system designed so that one part will provide some braking action if there is a loss of hydraulic pressure in the other part of the system. The system has a "Brake" light located in the speedometer cluster on the instrument panel.

- To serve as a reminder, the "Brake" light is designed to light while the parking brake is set and the ignition key is on.
- The light is also designed to come on briefly during engine starting so you can check that the bulb is okay.
- Have the system repaired if the light does not come on during engine starting or when the parking brake is set.
- This warning light does not do away with the need for brake inspection and maintenance. The brake fluid level must be checked regularly. See the Maintenance Schedule folder for other brake checks.

If the light comes on and stays on when the ignition key is on, after the brake pedal has been firmly pushed down, it may mean that there is something wrong with one part of the brake system.

What to do:

1. Check that the parking brake has been released. If it has been...
2. Pull off the road and stop carefully. And remember that:
 - Stopping distances may be longer.
 - You may have to push harder on the pedal.
 - The pedal may go down farther than normal.
3. Try out the brakes by starting and stopping on the road shoulder--then:
 - If you judge it to be safe, drive cautiously at a safe speed to the nearest dealer for repair or
 - Have car towed to dealer for repair.

Continued driving without getting it repaired could be dangerous.

OIL PRESSURE LIGHT

When the ignition is turned on, the red oil warning light appears until the engine is running. Thereafter, the light should be off unless there is insufficient oil pressure or engine idle speed is below normal. If the red light should come on at any time while driving (other than momentarily at idle speed or after a sudden stop), stop immediately and investigate the cause of low oil pressure. This could possibly be caused by low oil level in the crankcase.

GENERATOR LIGHT

The red light will go on when the ignition key is in the "RUN" position, but before the engine is started. After the engine starts, the light should

go out and remain out. If the light remains on when engine is running, have your Authorized Pontiac Dealer locate and correct the trouble as soon as possible.

COOLANT TEMPERATURE LIGHT

The red light will go when the ignition key is in the "RUN" position, but before the engine is started. After the engine starts, the light should go out and remain out. If the light comes on while the engine is running, see "Engine Coolant" in Section 3.

VOLTMETER

The voltmeter has the advantage of providing a warning of impending battery problems.

If the meter reads below 11 volts or above 16 volts continuously, it indicates charging system problems requiring immediate attention. It is normal for the meter to read between 11 and 13 volts during periods of extended idle or just after starting.



OIL PRESSURE GAGE

Under normal engine operating conditions, the oil pressure should be 20 to 60 psi. Should the pressure fall below this range (other than at idle) immediately turn the engine off and investigate the cause. Engine oil pressure should not fall below 4 psi, even at idle.

NOTICE: Pressures are always higher when the oil is cold.



TEMPERATURE GAGE

This gage indicates the temperature of the coolant which under normal engine operation should be approximately 205°F (95°C) or above. If the gage should indicate hot, over 250°F (115°C), take immediate action to ease difficulty and find cause as outlined under Water Temperature Light.

HEADLIGHT, DOME LIGHT AND INSTRUMENT PANEL LIGHT SWITCH

The headlight switch controls the headlights, parking and side marker lights, tail lights, interior lights and the instrument panel lights.

All lights except headlights and dome light are illuminated when the switch is pulled out to its middle position. All lights except the dome light are illuminated when the switch is in the full out position.

Clockwise and counterclockwise movement of the switch controls the brightness of the instrument panel lights. When turned fully clockwise, the instrument panel lights will go off. To operate the dome light, turn the control switch **fully** counterclockwise.

The headlight beam changer (dimmer switch) is in the turn signal lever; see "TURN SIGNAL AND HEADLIGHT BEAM LEVER" in this section.

ELECTRIC CLOCK



The clock in your car has a self-regulating feature. If your clock loses or gains time each day, resetting to the correct time will cause the clock to self-adjust. A time change of 10 minutes will cause the clock to change approximately 45 seconds per day. Several resettings may be needed to properly adjust the clock mechanism. Best accuracy can be obtained by resetting the clock each day at the same time; for example, on the way to work. The last direction that the stem is turned will determine if the adjustment will cause clock to gain or lose time. Counterclockwise will slow it down, clockwise will speed it up.

To reset for time zone changes or day light savings time changes, turn the clock either ahead or behind at least one and one-half hours, then return to the correct time. This will cancel the self-adjustment.

TACHOMETER

An engine tachometer is available to indicate engine speed in revolutions per minute (RPM). The engine should not be operated in the red area of the tachometer. The tachometer may not return to zero when the ignition is turned off.



I.P. Ash Tray

The ash tray may be simply pulled out for cleaning.

Cigar Lighter

To operate the cigar lighter on the instrument panel depress the lighter and it will automatically heat and snap out, ready to use. Avoid holding the lighter in by hand while it is heating as damage to the heating element may result.



WINDSHIELD WIPERS AND WASHERS

The windshield wiping system operates at two speeds (with two positions).

- To operate wipers, slide control switch to first detent (Low speed) or second detent (High speed).
- To activate washers, depress control switch fully (which automatically starts wipers on Low speed).

NOTICE: When engaging the washer system, hold the button in for as long as you desire water on the windshield. When you release the button, the water will stop.



- To momentarily operate wipers (to remove road splash, etc.) depress control switch to first detent. Hold in this position for as many wipes as desired.

NOTICE: If your vehicle is equipped with the optional "Arctic Wiper Blades", these blades should only be used at temperatures below 40°F (4°C).

- Check the washer fluid level regularly--do it often when the weather is bad.
- Use a fluid such as GM Optikleen to help prevent freezing damage, and for better cleaning.
- Do not use radiator antifreeze in the windshield washer; it could cause paint damage.
- *In cold weather, warm the windshield with the defrosters before using the washer--to help prevent icing that may block the driver's vision.*
- Clear snow and ice from the hood and air inlet in front of the windshield. This helps the heater and defroster work better and lowers the chance of fogging on the inside of the windshield.
- Run the blower on "High" for a few moments before driving off. This helps clear the intake ducts of snow and further lessens the chance of fogging on the inside of the windshield.

CONTROLLED CYCLE WINDSHIELD WIPERS

The optional controlled cycle windshield wipers offer, in addition to the "OFF", "LOW" and "HIGH" modes of the standard wiper system, an intermittent mode which provides a variable delay between the strokes of the wipers.

This delay can be varied from 2 to 12 seconds by positioning the ON-OFF switch to the desired position between OFF and LOW.

The wash function has a separate button on the switch. When the wash button is pushed, the motor goes to Low speed (except when High speed mode is already selected) and the washer pump is energized. The pump operates as long as the button is depressed. When the button is released, the wipers take a couple more strokes, then return to the selected wipe mode.



ELECTRIC TRUNK RELEASE

An electric trunk release is available which permits opening the trunk from inside the car by pushing the release button located in the glove box.

NOTICE: Always lock the glove compartment when leaving the car unattended to prevent unauthorized entry into the trunk.

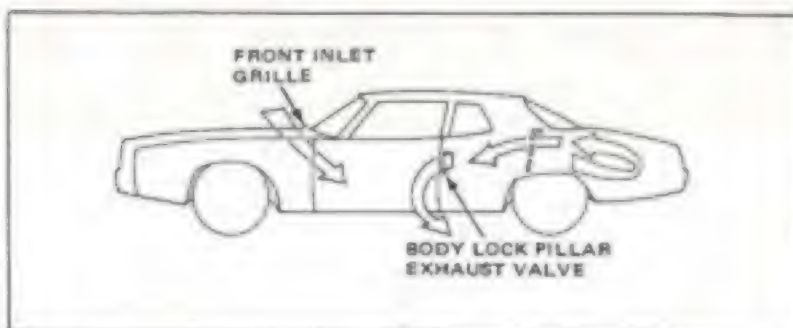
**ELECTRIC REAR WINDOW DEFOGGER**

The electric rear window defogger consists of a heating element bonded to the inside surface of the rear glass.

The unit is operated by a switch on the instrument panel and functions only in the ON position. A small light in the control switch illuminates whenever the heated rear window is operating.

After the defogger has operated between 10 to 15 minutes, the system will automatically shut off. If further defrosting is desired, simply turn the switch on again.

NOTICE: The heated rear window will NOT feel warm to the touch.

**VENTILATION SYSTEM**

Your Firebird, Esprit, Formula or Trans Am has a ventilation system that provides ventilation comfort by adding air outlet vents in the rear body lock-pillars. Another feature of the system is continuous low-speed operation of the heater and air conditioner blower. This results in a steady flow of outside air into the car whenever the engine is running.

With the side windows closed, outside air will flow into the front grilles, through the car, and out the rear air exhaust valves. (See illustration.)

Basic Operating Tips

- Always keep front inlet grille clear of obstructions (leaves, ice, snow, etc.).
- Always keep underseat air path clear of objects.
- When heating or air conditioning is desired, best comfort is attained by driving with all windows closed.

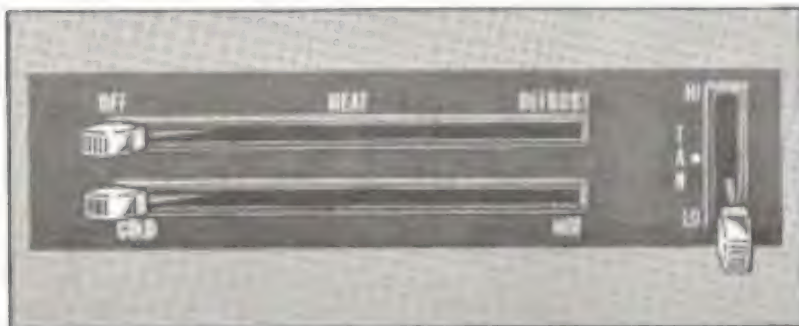
The following sections of this manual provide more operating tips for getting maximum heating and cooling comfort. See also "Engine Exhaust Gas Caution (Carbon Monoxide)" at the beginning of this section.

ADDITIONAL VENTILATION

On models without air conditioning, additional fresh air can be vented to the car interior with the use of the lower and upper air vents.

Lower ventilation is controlled by knobs located at each kick pad. Upper ventilation is controlled by additional knobs at each kick pad.

HEATER OPERATION



AIR CONTROL LEVER - The air control lever (OFF-HEAT-DEFROST) regulates the air flow from the heater and defroster outlets.

- OFF - Limited air flow (see FAN CONTROL LEVER).
- HEATER - Maximum air flow to heater outlet with slight amount to windshield.

SETTING YOUR HEATER CONTROLS

	Air	Temp.	Fan
Normal Driving— No Rear Seat Passengers	HEATER	As Desired	LO, MED
Normal Driving— Rear Seat Passengers	HEATER	As Desired	MED, HI
Windshield Defrosting	DEFROST	HOT	HI
Slow Driving	HEATER	As Desired	MED, HI

To provide draft-free heater operation, all windows and vents must be closed.

- **DEFROST** - Maximum air flow to windshield with some air flow from heater outlet.
- Clear snow and ice from the hood and air inlet in front of the windshield. This helps the heater and defroster work better and lowers the chance of fogging on the inside of the windshield.
- Run the blower on "High" for a few moments before driving off. This helps clear the intake ducts of snow and further lessens the chance of fogging on the inside of the windshield.

TEMPERATURE CONTROL LEVER - The temperature control lever (COLD - HOT) regulates the temperature of the air discharged from the heater and defroster outlets.

FAN CONTROL LEVER - The fan control lever (LO - HI) provides speed control of the fan (either LO - HI). The fan will operate any time the ignition switch is turned to RUN, even though the air control lever is in the OFF position. This controls moisture entering the heater system and results in an uninterrupted supply of outside fresh air flow into the car whenever the ignition switch is on. To adequately provide heat to the rear seat area, it is necessary that the fan switch be set at the MED or HI position.

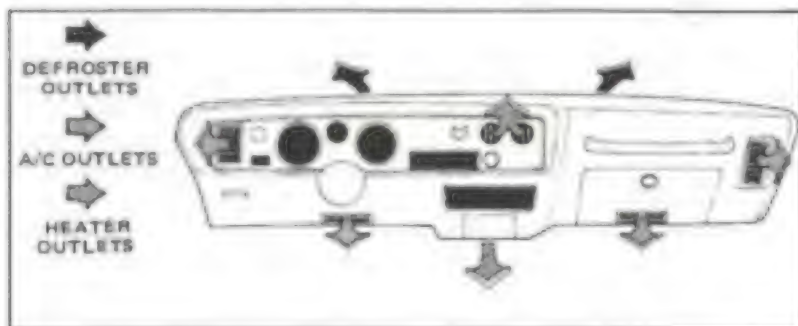
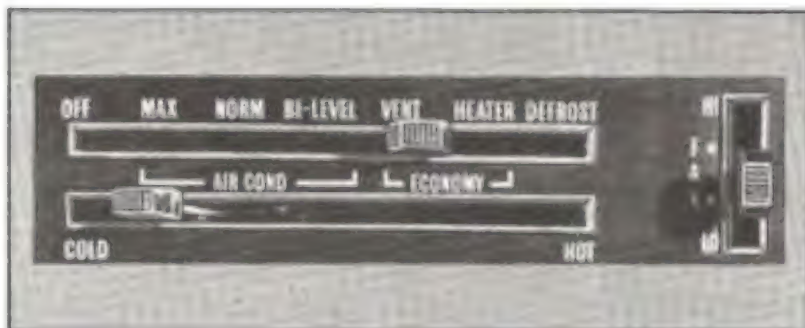
CUSTOM AIR CONDITIONING

Air conditioning systems offer year-round comfort, for all seasons and climates, day or night, in rain or in brilliant sunshine. Combining the heater and air conditioner into an integrated package gives you complete comfort regardless of the weather.

REGULATING YOUR AIR CONDITIONING SYSTEM

For normal, average conditions:

- **WINTER**--Select either BI-LEVEL, VENT or HEATER positions.
- **SUMMER**--Select NORM, BI-LEVEL or VENT positions.
- **ALL SEASONS**--Regulate the car temperature by moving the COLD-HOT lever.



- For UNUSUAL CONDITIONS--Consult following chart.

AIR CONDITIONING CONTROLS

Condition	Air Control Lever						Temp. Lever	Fan Lever
	Off	A/C	Vent	Heater	Bi Lev.	Defrost		
Fast Cool Down (Hot Weather)		Max					full cold	Hi
Hot Weather Driving		Norm					as desired	2 or 3
Mild or Damp Weather		Norm			X		as desired	2 or 3
Heating (Standard)			*	*			as desired	2 or 3
Maximum Heat			*	*			full hot	Hi
Windshield De-Fogging					X	X	as desired	Hi
Windshield Defrosting						X	as desired	Hi
Best Fuel Economy	*		*	*			as desired	as desired
Turn Air Outlets Off	**							

* Mode of operation is optional at discretion of operator.

** A slight amount of air will always be present at the heater outlet.
(See Note under FAN CONTROL LEVER.)

During some A/C operation conditions, slight increases and decreases of engine speed/power may be noticed. This characteristic should be considered normal, as the system is designed to cycle the compressor ON and OFF to maintain desired cooling. The reduced compressor operation should benefit fuel economy.

AIR CONTROL LEVER (OFF- MAX- NORM- BI LEVEL- VENT- HEATER- DEFROST) - The air control lever regulates air flow from the heater, defroster and adjustable A/C outlets. It also controls operation of the refrigeration compressor.

- **OFF**--Limited air flow from defroster and heater outlets (see FAN CONTROL LEVER).
- **MAX**--An air conditioning position where passenger compartment air is blended with a small amount of fresh outside air, conditioned and then distributed through the adjustable instrument panel air outlets. In MAX the system will provide maximum cooling and variable fan speed. Useful in conditions of very high temperature and humidity.
- **NORM**--An air conditioning position where fresh, conditioned air is directed through the adjustable instrument panel air outlets. Used in most air conditioning situations.
- **BI LEVEL**--An air conditioning position where fresh, conditioned air is directed through the heater and adjustable instrument panel air outlets, with some air flow through the defroster outlets to the windshield. Useful when fog appears on the windshield and side glass due to sudden rain or entry into the car with wet clothing.
- **VENT**--Fresh, outside air is directed through the adjustable instrument panel air outlets. Used in cool-to-moderate weather where refrigeration is not required. This is a fuel economy position, with the refrigeration system compressor turned off.
- **HEATER**--Fresh, outside air is directed through the heater outlet, with a small amount to the windshield. Another economy position.
- **DEFROST**--The compressor will operate to provide fresh, conditioned (dry) air to the windshield, with a small amount from the heater air outlet. Used in fogging and icing situations.

TEMPERATURE CONTROL LEVER - The temperature control lever regulates the temperature of the air entering the passenger compartment. Position of the lever determines air temperature in any of the operating positions of the Air Control Lever.

FAN CONTROL LEVER - The fan control lever (LO - HI) provides speed control of the blower fan in all AIR CONTROL LEVER positions except OFF.

NOTICE: The fan may run whenever the ignition switch is turned to RUN (except, in some cases, under cold temperature conditions). This feature helps provide a supply of outside fresh air flow into the A/C system.

For proper operation of the air conditioning system, car windows should

always be closed except for the first two or three minutes to remove hot air if the car has been closed. This provides a fast cool-down.

RADIOS AND TAPE PLAYERS

Your Firebird, Esprit, Formula or Trans Am may have one of several available Delco Sound Systems. Although a wide variety of features is offered, the following basic controls are common to all systems.

Controls-All Radios



- **Left Knob** - This knob turns the set on or off, and controls the volume. (To use the radio, the ignition key must be in the "Run" or "Accessory" position.) Behind the volume knob is a tone control. When turned to the right, it increases treble and voice clarity; when turned to the left, it increases bass.
- **Right Knob** - This knob is a manual tuning control for choosing radio stations. For radios with rear speakers, a fader control is located behind it. This control adjusts the sound between the front and rear speakers.
- **Pushbuttons** - Each radio has five pushbuttons you can use to select your favorite stations. After using the pushbuttons, you may have to "fine-tune" the radio by hand for the best reception.

To "set up" the pushbuttons:

1. Manually tune to the desired station.
2. Choose the button you wish to use. Pull it straight out, then push it back in firmly until it stops.
3. Do this for each of the five buttons.

NOTICE: Your GM Delco Sound System includes ungrounded speakers. Installation of add-on tape players, CB's, or other units that use the car speakers may damage your Delco radio and impair operation of the added unit. Please consult your dealer in advance if you are considering additions.

AM Monaural Radio

This radio receives AM broadcasts. Operation is described above.

AM-FM Monaural Radio

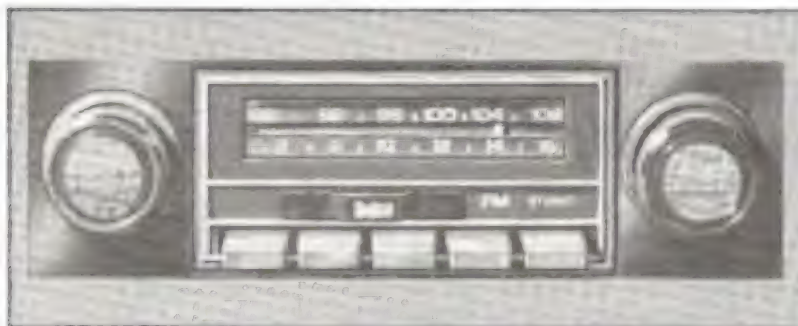
This radio receives FM as well as standard AM broadcasts. Choose the desired band by sliding the selector bar to the right for AM, or the left for FM.

On Delco AM-FM radios, you may select an AM station and an FM station for each pushbutton, providing a total of ten selections. Do this by sliding the selector bar to the right and setting each button for AM stations. Then slide the bar to the left and do the same for FM stations.

NOTICE: Do not move the selector bar while any pushbutton is pulled out, or damage to the radio could occur.

FM Reception

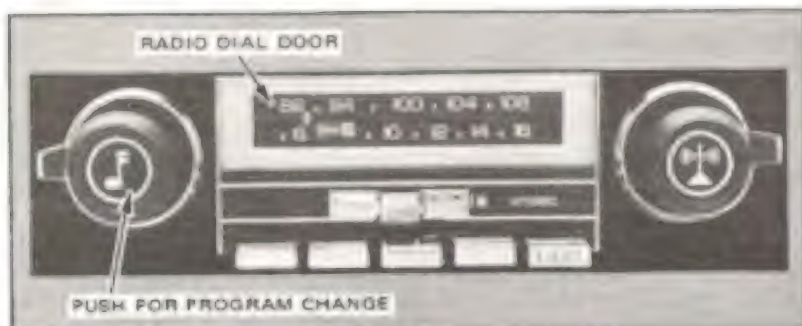
Although FM is normally static free, reception can be limited by terrain, atmospheric conditions, station strength, and distance from the transmitter. Momentary static, flutter, or station swapping can be caused by buildings or other obstructions. If good reception cannot be maintained, tuning to a stronger station will bring improvement.

AM-FM Stereo Radio

Operation of this option is identical to that of the AM-FM monaural radio. This radio will automatically switch to stereo operation whenever an FM stereo broadcast is being received, and an indicator will light. "Stereo" operation means that the radio is separating a stereo broadcast back into the original two channels, called "front" and "rear". Stereo sound is noticeably more realistic to the ear.

AM or AM-FM Stereo with 8-Track Tape

This system provides the convenience of an AM or AM-FM stereo radio combined with a stereo tape player in the same unit. To operate the tape feature:



- Turn the radio on.
- Insert the cartridge through the radio dial door, label side up, and open end first. This automatically switches the unit from radio to tape operation.
- After the cartridge is firmly seated, adjust the volume and fader controls to your preference.
- Each of the four programs will play in succession automatically, or you can change programs manually by pushing in the left knob. Each time the knob is pushed and released, the unit will step to the next program.

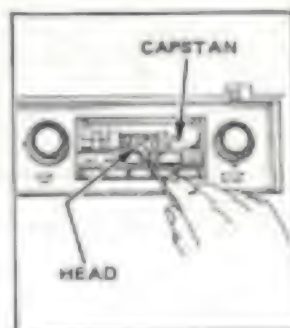
To remove the tape cartridge, press the pushbutton labeled "Eject". The unit will return to radio operation.

Cartridge and Tape Player Care

The tape cartridge should be taken out when not in use to prevent possible damage to the tape player and to the cartridge.

Store cartridges away from extreme heat or direct sunlight. Protect the open ends from dirt or damage. We suggest you store them in their original cases or in any other protective cases. Cartridges do eventually wear out and replacement may be necessary if they become noisy.

Clean the pickup head, tape guide, and end capstan (revolving metal post) after every 100 hours of operation. Use a cotton-tipped swab dipped in rubbing alcohol. Access is through the tape door. (See illustration.)



AM-FM Stereo with Cassette Tape

This option combines the features of an AM-FM stereo radio with a stereo cassette tape player. To operate the cassette tape feature:



- Turn the radio on. (On very cold days, allow a few minutes for "warm-up").
- Insert the cassette cartridge squarely through the door above the radio dial, according to the outline shown on the door. This automatically switches the unit from radio to tape operation. If the sound is garbled (or there is no sound), eject the tape and reinsert it squarely.
- After the cassette has snapped into position, adjust the volume and fader controls to your preference.
- To quickly advance to the next selection, depress the Fast Forward ("FFWD") button located to the right of the tape door until it latches. The sound will be muted during Fast Forward operation. To release the "FFWD" (lock), press the "Stop/Eject" button (located to the left of the tape door).
- The tape player will automatically shut off at the end of the tape, but the radio will not resume playing until you eject the cassette.
- To remove the cassette, fully depress the "Stop/Eject" button.
- To change to the second program: eject the cassette, turn it over (end-for-end), and reinsert it, again according to the outline on the door.

Cassette cartridges should be removed from the tape player when not in use. See "Cartridge and Tape Player Care" (in this section) for maintenance information. Best results are obtained with cassettes which are 30 or 60 minutes long.

Other Radio Options

If your car is equipped with a GM Delco Citizens Band radio, or a radio-clock featuring digital display, please refer to the separate booklets supplied with those units.

MOBILE RADIO SYSTEMS

Mobile two-way units are subject to Federal Communications Commission (FCC) rules and must be installed by trained radio people.



Mobile telephones installed by your local phone company, Citizens Band (CB) radios, and garage door openers normally will not affect vehicle operation. If any other mobile radio transmitters are installed, there can be possible adverse effects on vehicle operation.

ANTENNA

The radio antenna consists of two thin conductive elements, placed between the layers of the windshield glass. The vertical portion of the antenna wire picks up AM broadcast signals (vertically oriented), and functions similar to a conventional antenna set to a height of 18". The horizontal portion of each antenna wire picks up the horizontally oriented FM broadcast signals, and has a combined length of 31", providing optimum FM reception. In rural areas, weak distant AM station reception may be improved by use of a fully extended external antenna (consult your Pontiac dealer).

POWER ANTENNA

An optional power antenna is available which mounts on the left hand front fender. Antenna elevation is fully automatic. With the ignition key in the "Run" or "Accessory" position, the antenna will elevate whenever the radio is turned on and will retract when the radio is turned off. The antenna will retract whenever the ignition is turned off.

**REAR SEAT SPEAKER**

Rear seat speakers are included with stereo radio systems and are optional with other radios. The bezel, located behind the right control knob on the radio, provides speaker volume to front, rear or balance to both locations.

Other Controls and Features**HUSH PANEL**

Insulated hush panels are located along the bottom of the instrument panel to promote quietness within the passenger compartment.

LUGGAGE CARRIER

Available only on some models (see your Pontiac dealer), luggage carriers are designed to carry your luggage safely and securely while enroute to or from your destination. The load should be reasonably distributed and should not exceed 200 pounds. The carrier is not designed to carry boats, long ladders or other extended items.

Only those roof mounted carriers which pull-up on the roof rail molding and support the weight on the roof top (such as those available from Pontiac) are acceptable.

Rear compartment (deck) lid carriers are available on some models. (See your Pontiac dealer.)

REMOVABLE HATCH ROOF

The optional hatch roof glass panels can be manually removed and stored in protective storage bags (located in the trunk compartment) as follows:

1. Unlatch the glass panel by pulling downward on the release handle located at the outboard side of the panel.
2. Raise the outboard edge of the glass upward and disengage from the retaining tabs on the inboard edge of the glass.
3. Store each glass panel in its separate storage bag.
4. To install glass panels, reverse removal procedure.



CAUTION: To help avoid personal injury and/or equipment damage--

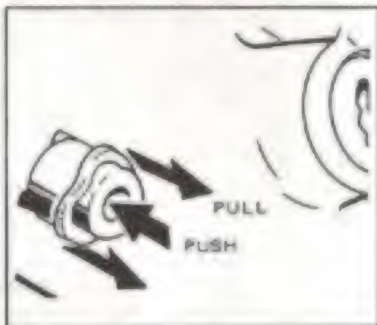
- Do not unlock the roof panel latches or attempt to remove the panels while the car is moving. Otherwise, the panels may become a hazard by falling into the car or flying off.
- When removing the roof panels, place them in the protective bag provided and stow them in the trunk. This will help keep the panels from being thrown about and injuring people in the car in an accident, and will help protect the panels.
- When putting roof panels back in place, always check that they have been firmly latched by pushing up on the underside of each panel.

LIMITED-SLIP REAR AXLE

The optional limited slip rear axle, on cars that have it, can give added traction on snow, ice, mud, sand, gravel, etc. Normally, the limited-slip axle unit works like a standard axle. However, when either drive wheel meets a slippery enough surface, the limited-slip unit can continue to give driving force to the wheel having the greater traction, instead of merely spinning the wheel which has the least traction.

FOUR-WAY HAZARD WARNING FLASHER

- Use the warning flasher to warn other drivers any time your car becomes a traffic hazard, day or night.
- Avoid stopping on the roadway if possible.
- Turn on the hazard warning flasher by pushing in on the button (inside the collar) located on the column just below the steering wheel. The flasher will work with the ignition key either off or on.
- The turn signals do not work when the hazard flashers are on.
- If the brake pedal is depressed, the lights will not flash; they will stay on until the brake is released.
- To turn off the flasher, pull the button collar out.

**EMERGENCY STARTING**

NOTICE: Do not push or tow this vehicle to start it. Under some conditions this may damage the catalytic converter or other parts of the car.

If your car has a discharged battery, it can be started by using energy from another battery—a procedure called “jump starting.”

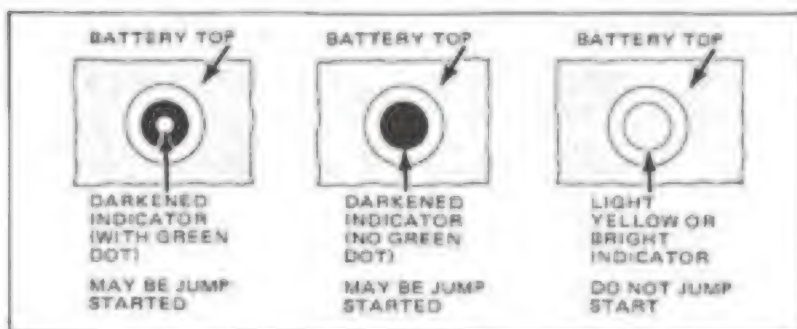
JUMP STARTING

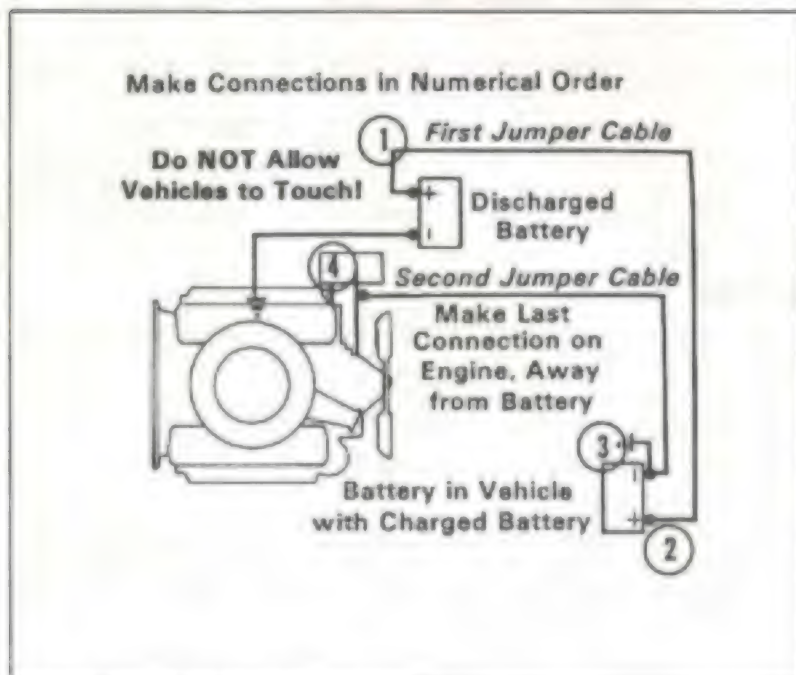
CAUTION: The instructions below must be followed *exactly* or personal injury (particularly to eyes) or property damage may result from battery explosion, battery acid, or electrical (short circuit) burns.

- The major safety precaution is to make the final connection to ground (a solid, stationary metallic object) on the engine at some distance from the battery. This helps reduce the chance of an explosion due to sparks.
- To lessen the chance of an explosion, never expose the battery to open flames or electric sparks. Also do not smoke near the battery. Batteries give off a gas which is flammable and explosive.
- To lessen the risk of injury in case an explosion does occur, wear eye protection or shield your eyes when working near any battery. Do not lean over a battery.
- Do not allow battery fluid to contact eyes, skin, fabrics, or

painted surfaces because battery fluid is a corrosive acid. Flush any contacted area with water immediately and thoroughly. Also get medical help if eyes are affected.

- To lessen the risk of a short circuit, remove rings, metal watch bands and other metal jewelry. Also do not allow metal tools to contact at the same time the positive battery terminal (or any metal connected to this terminal) and any other metal on either vehicle. Make certain when attaching the jumper cable clamps to the positive terminals of the batteries that neither clamp contacts any other metal.
1. This car has a 12 volt battery and a negative ground electrical system. Make sure that the other vehicle also has a 12 volt battery and that the negative terminal is grounded (attached to a metal part of the vehicle). Its owner's manual may give you that information. **If unsure of the other vehicle's voltage (or if the voltage and ground on the other vehicle are different from your car), do not try to jump start as a personal injury or severe damage to electrical and electronic parts may result.**
 2. Position the car with the good (charged) battery so that the jump starting cables will reach. **Do not allow the cars to touch.**
 3. Turn off all electric motors and accessories in both cars. Turn off all lights except those needed to protect the vehicle or light up the work area. Turn off the ignition, apply the parking brake firmly, and put the automatic transmission in "Park" (manual transmission in "Neutral") in both cars.
 4. If the discharged battery has filler caps, check the fluid level. **(Do not check with an open flame and do not smoke.)** Add clear drinking water to the proper level if low, and replace caps before jump starting. If the battery is a Delco sealed type, do not attempt to jump start the vehicle, or charge, or test the battery if the test indicator in the battery is bright or light yellow (See illustration). Instead, install a new battery.





5. Jumper Cable Connection Instructions.

- Connect the first jumper cable from the positive "+" (red) terminal on one battery to the positive "+" (red) terminal on the other battery. **Never** connect "+" (red) to "-" (black), or "-" to "+".
- Next, connect one end of the second cable to the grounded negative "-" (black) terminal of the good (charged) battery.



- Lastly, connect the other end of the second jumper cable to a solid, stationary, metallic point on the engine of the car with the discharged battery but at a point **away from the battery** —18 inches (450 millimetres) or more from the battery if possible. Do not connect it to pulleys, fans, or other parts that move. Don't touch hot manifolds which can cause severe burns. (The **mounting brackets** for the Delcotron generator, or the air conditioning compressor, generally make a good point for this

final ground attachment. Take care that the jumper cable does not contact moving parts on or near the generator or compressor.)

6. Start the engine on the car with the good (charged) battery and run the engine at a moderate speed.
7. Start the engine of the car that has the discharged battery.
8. Remove the battery cables by reversing the above sequence exactly. Start by removing the last clamp first; that is, remove the jumper cable from the engine of the car with the discharged battery as the first step.

ENGINE COOLANT

Your cooling system may temporarily overheat during severe operating conditions, such as:

- climbing a long hill on a hot day,
- stopping after high speed driving,
- idling for long periods in traffic, or
- towing a trailer.

If the hot light comes on (or the coolant temperature gage needle goes into the warning zone) and your air conditioner is on, turn it off. If the hot light (or gage) comes on while stopped in traffic, place the transmission shift lever in Neutral ("N").

If the hot light doesn't go off (or the temperature gage needle doesn't start to drop) within a minute or two:

- pull over to a safe place and stop the car. Set the parking brake and shift to "Park" (with manual transmission, shift to Neutral and set the parking brake).
- **Don't turn off the engine. Increase the engine idle speed** until it sounds like it's going about twice as fast as normal idle speed. Bring the idle speed back to normal after two or three minutes.

If the hot light still doesn't go off (or the temperature needle doesn't start to drop), **now turn off the engine** and proceed as follows:

- Lift the engine hood. Look at the coolant level in the "see through" coolant recovery tank. The coolant level should be at or above the "Full" ("Hot") mark on the tank. If the coolant appears to be "boiling," wait until it stops before proceeding further. (It should not be necessary to remove the radiator cap to check the coolant level, and it can be dangerous if the engine is still hot. See Caution below.)

CAUTION: To help avoid the danger of being burned:

- do not remove the coolant recovery cap while the coolant is "boiling," and
- do not remove the radiator cap while the engine and radiator are still hot.

Scalding fluid and steam can be blown out under pressure if either cap is taken off too soon.

- If the coolant level is low:
 - look for leaks at the radiator hoses and connections, heater hoses and connections, radiator and water pump. See that the fan belts are not broken or off the pulleys and that the fan turns when the engine is started.
 - add coolant to the coolant recovery tank.

If the coolant level in the coolant recovery tank is at the correct level and the hot light still comes on, air may be trapped in the cooling system. This may prevent coolant from returning to the radiator. In this case, it may be necessary to add coolant directly to the radiator. See "Coolant Replacement" in the "Service and Maintenance" section of this manual. Follow steps 1 and 10 for the correct way to remove the radiator cap and add coolant to the radiator.

After the red light is out (or the gage needle is out of the warning zone), resume driving at a reduced speed. Return to normal driving after about ten minutes if the light does not come back on (or the needle does not go back into the warning zone).

JACKING

CAUTIONS:

To reduce the possibility of personal injury:

- Follow jacking and stowage instructions.
- Use this jack only for lifting car during wheel changing.
- Never get beneath the car when supported by this jack.
- Do not start or run the engine while car is supported by this jack.

Instructions

- Park on level surface and set the parking brake firmly.
- Set automatic transmission in "Park" (manual transmission in Reverse).
- Turn on the hazard warning flasher.
- Loosen, but do not remove, wheel nuts by rotating wrench counterclockwise.

NOTICE: Capped chrome nuts can be damaged if wheel nut wrench is not fully seated on wheel nuts.

- With the column seated in the jack base, and the lever in the "up" position, engage the adapter on the jack hook and in the bumper bracket.
- The jack base must sit flat with top of the column angled slightly away from the car. (See illustration.)
- Block front and rear of wheel on the same side as wheel being



removed before operating jack.

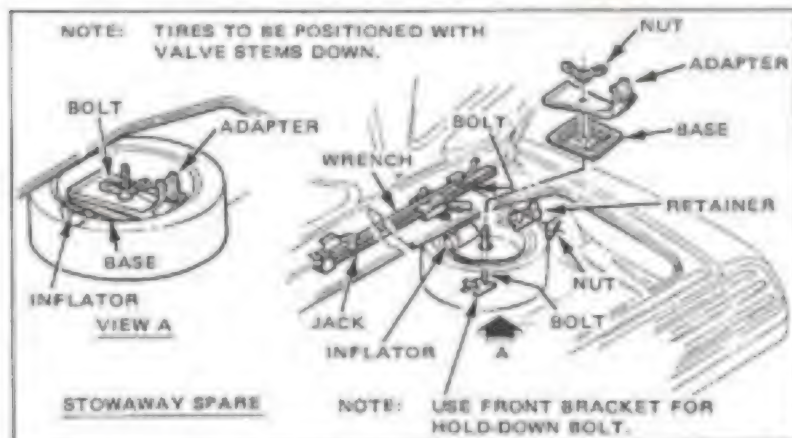
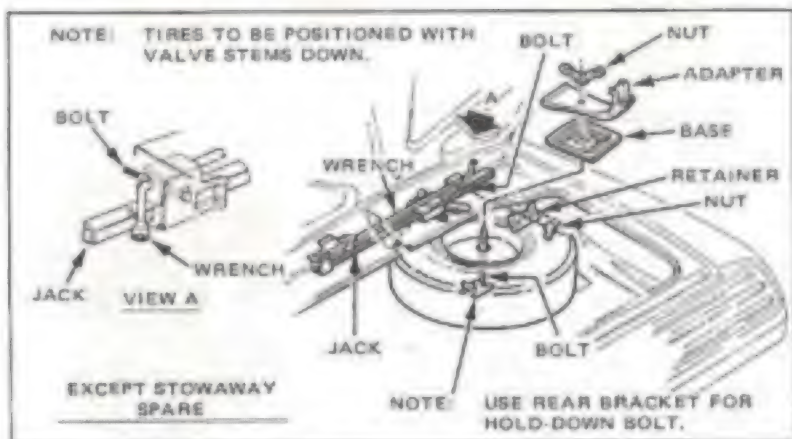
- Operate jack with slow, smooth motion.
- Raise car so inflated spare tire will just clear surface. **FLEXIBLE BUMPER FACE BAR, GRILLE AND BODY PANELS WILL TEMPORARILY DEFORM DURING JACKING. THIS IS NORMAL. ALL PARTS WILL RETURN TO THEIR ORIGINAL SHAPE WHEN THE JACK IS REMOVED.**
- Install wheel and replace wheel nuts with cone-shaped end toward wheel. Then slightly tighten each nut. Wheel must be seated on hub.
- Place lever in "down" position.
- Lower car and fully tighten wheel nuts by applying clockwise pressure near end of wrench as shown.



WHEEL NUT TORQUE

CAUTION: As soon as possible after installing a wheel-- and at the intervals shown on the chart in the Maintenance Schedule folder-- have a mechanic tighten wheel nuts with a torque wrench to 80 foot pounds; 90 foot pounds for cast aluminum wheels. Wheel nuts should be tightened alternately and evenly to the correct torque. Never use oil or grease on studs or nuts. Improperly tightened wheel nuts could eventually allow the wheel to come off while the car is in motion, possibly causing loss of control. (Also see the caution in the Service and Maintenance section of this manual regarding the danger of mixing metric and customary fasteners.)

STOWAGE OF TIRE AND JACK



CAUTION: Always securely restow the spare tire assembly, all jacking equipment, any tire inflator, and any covers or doors, using the means provided. This will help keep such things from being thrown about and injuring people in the car in an accident.

NOTICE: When reinstalling wheel discs, use care to avoid any possible damage. Position the disc on the rim aligning the valve stem with valve stem hole. Using a soft rubber mallet, tap lightly around the outer diameter, avoiding any excessive pressure. If a soft rubber mallet is not

available, defer reinstallation of the wheel disc until assistance of a service station having the necessary equipment is available.

NOTICE: On cars equipped with Rally wheels, carefully remove the trim ring and reinstall on spare wheel. Only four of these rings are supplied with this option.

STOWAWAY SPARE

If your car has a stowaway spare tire, your spare provides you with more usable storage space since it is stored deflated. A tread life of up to 3,000 miles (4 800 kilometres) can be expected, depending on road conditions and your driving habits. To conserve tire tread life, return the spare to the trunk as soon as the standard tire can be repaired or replaced. Continuous use at speeds over 50 mph (80 km/h) is not recommended.

A pressurized tire inflator (blue canister) has been provided with your stowaway spare tire. The inflator contains CO₂ (carbon dioxide), and is refillable after use. Contact your Pontiac dealer or an authorized fire extinguisher service facility for a refill.



Inflation with approved inflator:

1. Before changing tire, read the caution and directions that appear on both the tire inflator and on the stowaway spare.
2. Install deflated spare on car axle with valve stem at the bottom. Then slightly tighten all wheel nuts.
3. Remove valve stem cap and place tire inflator over stem of tire inflation valve. Push squarely onto stem until gas can be heard entering the tire. (Tire may move slightly toward or away from you when expanding. This is normal.)
4. After sound of gas entering tire stops, remove tire inflator and replace valve cap. Lower car and fully tighten wheel nuts per jacking instructions in this manual. Do not use wheel covers or trim rings on the stowaway spare wheel. If such use is attempted, damage to these items or other vehicle components may occur.

When first filled or after car has been standing for a long time (particularly in cold weather), the tire may not appear fully inflated. In this case, drive slowly for the first



mile/kilometre; this should increase the pressure in the tire. If not, follow instructions per Step 5 immediately.

5. Adjust tire inflation pressure to the pressure shown on the Tire Placard (located on the left front door) as soon as possible after putting tire on car (use of a pocket type inflation pressure gage is advised).

Inflation with Air Hose:

1. Before tire inflation, read the caution and directions that appear on the stowaway spare.
2. Install spare on car axle and slightly tighten all wheel nuts, or place spare on a tire changer with the wheel locked in place.
3. Inflate the spare, stopping to check inflation pressure often (use of a pocket type inflation pressure gage is advised). Inflate tire to the recommended cold inflation pressure as shown on the Tire Placard (located on the left front door) up to a limit of 32 psi (220 kPa) for load range B tires, 36 psi (250 kPa) for load range C tires, and 35 psi (240 kPa) for standard (metric) load range tires.
4. Replace valve cap. With spare installed on car axle, lower car and fully tighten wheel nuts per jacking instructions in this manual.

Deflation Instructions:

1. Deflate tire by pressing down stem on tire inflation valve or by taking out valve core.
2. Flatten tire and replace valve core and cap.
3. Store tire in the proper storage area of your car.

Repair of Stowaway Spare

CAUTION: Do not attempt to repair, mount on the rim, or dismount from the rim a stowaway spare tire. Servicing of this tire requires proper tools, equipment and training. Wrong service techniques can cause violent bursting of the tire, which could result in serious injury.

Contact an authorized retailer of the tire manufacturer if service is required.

TOWING

Proper equipment must be used to prevent damage to cars during any towing. State (Provincial in Canada) and local laws which apply to cars in tow must be followed. Get detailed towing instructions from your Pontiac dealer.

Your Firebird, Esprit, Formula or Trans Am may be towed on all four wheels, at speeds of less than 35 mph (60 km/h), for distances up to 50 miles (80 kilometres), provided the driveline and steering are normally operable. For such towing the steering must be unlocked, transmission in neutral, and the parking brake released. Connect to main structural parts of the car. Do NOT attach to bumpers or brackets. Remember also that

power brakes and power steering will not work when engine is "Off."

If the car is to be towed by a wrecker, use only equipment designed for this purpose following the instructions of the wrecker manufacturer. A safety chain system must be used for all towing.

FREEING CAR FROM SAND, MUD, SNOW OR ICE

If your car gets stuck in sand, mud, snow or ice move the shift lever on automatic transmission models from Drive ("D") to Reverse ("R") in a repeat pattern. (On manual transmission models, move the shift lever from First or Second to Reverse.) Apply a light pressure to the accelerator pedal while the transmission is in the "D" or "R" range (Second or Reverse on manual transmission models). Remove your foot from the accelerator while shifting between ranges. Do not race the engine. For best traction, avoid spinning the wheels. Incorrect rocking of vehicle while stuck may result in damage to vehicle components.

CAUTION: Do not spin wheels faster than 20 mph (35 km/h). Personal injury and damage (including tire, transmission and/or rear axle failure) may result from excessive wheel spinning.

If vehicle remains stuck after several rocking attempts, seek other assistance.

Also see the Notice under "Automatic Transmissions" in Section 2.

CAUTION: Many cleaners may be poisonous or flammable, and their improper use may cause personal injury or damage the inside of the car. Therefore, when cleaning the inside of the car, do not use volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents except as noted in the fabric cleaning advice on stain removal that follows. Never use carbon tetrachloride, gasoline or naphtha for any cleaning purpose.

Because fumes are more dangerous in a small enclosed space, be sure the car is well ventilated while using any cleaning agent. Follow the manufacturer's advice in using such products.

NOTICE: To avoid possible permanent discoloration on white or light colored seats, **do not** let materials with unstable dyes come in contact with seat trim materials until totally dry. (This would include certain types of casual clothing, such as colored denims, corduroys, leathers and suedes; also decorative paper, etc.)

CARE AND CLEANING OF INTERIOR TRIM

With the use of modern trim materials, it is **very important** that proper cleaning techniques and cleaners be used. Failure to do this on the first cleaning may result in water spots, spot rings, or setting of stains or soilage, all of which make it more difficult to remove in a second cleaning.

The portions of the following cleaning instructions that are in **bold type** are especially important and **must** be performed.

Dust and loose dirt that accumulate on interior fabrics should be removed often with a vacuum cleaner or soft brush. Vinyl or leather trim should be wiped regularly with a clean, damp cloth. Normal trim soilage, spots, or stains can be cleaned with these GM cleaners:

DESCRIPTION	PART NO.
GM Spot Lifter	1051398
8 oz. (0.237 L) Solvent Type	
GM Multi-Purpose Powdered Cleaner	1050429
6 lb. (2.72 kg) Foam Type	

The above products are excellent cleaners when used properly. They are available through your Pontiac dealer.

Remember these basic steps before cleaning:

1. Remove stains as quickly as possible before they become "set".
2. Use a clean cloth or sponge, and change to a clean area often. (A **SOFT** brush may be used if stains persist.)
3. Use solvent type cleaners only in a well ventilated area; also, do not saturate the stained area.
4. If a ring forms after spot cleaning, clean the entire area **immediately**.

5. Follow specific instructions on cleaner labels.

Cleaning General Soilage or Water Spots from Fabric Type Trim With Foam Type Cleaner

GM Multi-Purpose Powdered Cleaner is excellent for this type cleaning, and for cleaning panel sections where small cleaning rings may be left from spot cleaning.

- Vacuum area thoroughly to remove loose dirt.
- Always clean a full trim assembly or complete trim section. Mask surrounding trim along stitch or welt lines.
- Mix Multi-Purpose Powdered Cleaner in strict accordance with directions on label of container. Mix in proportion for smaller quantities.
- Use suds only on a clean sponge or soft bristle brush. Do not saturate fabric or rub harshly with brush.
- Immediately after cleaning, wipe off excess cleaner with slightly damp absorbent towel or cloth. **IMPORTANT** - Immediately after wiping, force-dry fabric with air hose, heat dryer or heat lamp. (Use caution with heat dryer or lamp to help prevent damage to fabric.)
- When trim materials with a sheen or luster finish are dry, wipe fabric lightly with a soft, dry, clean cloth to restore its sheen or luster.

Spot Cleaning Fabric Type Trim with Solvent Type Cleaner

Before trying to remove a spot or stain from fabric, determine as accurately as you can what kind and how old the spot or stain is. Some spots or stains can be removed with water or mild soap solution (see "Removal of Specific Stains"). Spots or stains should always be removed as soon as possible.

Some types of stains or soilage, such as lipstick, inks and grease, are very difficult (sometimes impossible) to completely remove. When cleaning this type of stain or soilage, be sure not to enlarge the soiled area.

GM Fabric Cleaner (Solvent Type) is excellent for spot cleaning grease, oil, or fat stains.

- Gently scrape excess stain off trim material with a clean, **dull** knife or scraper. Use **very little cleaner**, light pressure, and clean cloths (preferably cheesecloth). Cleaning should be from outside of stain "**feathering**" towards the center. Keep changing to a clean section of cloth.
- When stain is cleaned from fabric, immediately dry area with an air hose, heat dryer, or heat lamp to help prevent a cleaning ring. (Use caution with heat dryer or lamp to prevent damage to fabric).
- If a ring forms, immediately repeat the cleaning operation over a slightly larger area with emphasis on "**feathering**" towards its center. If ring still remains, mark off surrounding trim sections and clean entire affected area with GM Multi-Purpose Powdered

Cleaner (as described under "Cleaning General Soilage or Water Spots with Foam Type Cleaner").

REMOVAL OF SPECIFIC STAINS

Grease or Oil Stains - Includes grease, oil, butter, margarine, shoe polish, coffee with cream, chewing gum, cosmetic creams, vegetable oils, wax crayon, tar and asphalts.

- Carefully scrape off excess stain; then use Fabric Cleaner (Solvent Type) as previously described.
- Shoe polish, wax crayons, tar and asphalts will stain if allowed to remain on trim; they should be removed as soon as possible. Use caution as cleaner will dissolve them and may cause them to "bleed".

Non-Greasy Stains - Includes catsup, coffee (black), egg, fruit, fruit juice, milk, soft drinks, wine, vomit and blood.

- Carefully scrape off excess stain; then sponge stain with cool water.
- If stain remains, use Multi-Purpose Powdered Cleaner (Foam Type) as previously described.
- If odor persists after cleaning vomit or urine, treat area with a water-baking soda solution: 1 teaspoon (5 millilitres) baking soda to 1 cup (250 mL) of tepid water.
- Finally, if needed, clean lightly with Fabric Cleaner (Solvent Type).

Combination Stains - Includes candy, ice cream, mayonnaise, chili sauce and unknown stains.

- Carefully scrape off excess stain; then clean with cool water and allow to dry.
- If stain remains, clean with Fabric Cleaner (Solvent Type).

Cleaning Vinyl or Leather Trim

Ordinary soilage can be removed from vinyl or leather with warm water and a mild soap such as saddle soap or oil soap, or equivalent.

- Apply a small amount of soap solution and allow to soak for a few minutes to loosen dirt; then, rub briskly with a clean, damp cloth to remove dirt and traces of soap. (This may be repeated several times, if necessary.)
- Soilage such as tars, asphalts, shoe polish, etc. will stain if allowed to remain on trim. They should be wiped off as quickly as possible and the area cleaned with a clean cloth dampened with GM Vinyl Cleaner (Solvent Type).

SEAT BELT CARE

- Clean only with mild soap and lukewarm water.
- Do not bleach or dye belts since this may severely weaken them.

Glass Surfaces

Glass surfaces should be cleaned on a regular basis. Use of GM Glass Cleaner or a commercial household glass cleaning agent will remove normal tobacco smoke and dust films sometimes caused by ingredients used in vinyls and interior plastics.

Cleaning Glass Surfaces

Never use abrasive cleaners on any car glass, as they may cause scratches. Also, if such cleaners are used on the inside of the back window, any electric defroster element may be damaged. Avoid placing decals on the inside rear window that may later have to be scraped off. If a temporary license is used, take care not to attach it across grid.

CARE AND CLEANING OF EXTERIOR

Exterior Appearance

The paint finish on your car provides beauty, depth of color, gloss retention and durability.

Washing Your Car

The best way to preserve your car's finish is to keep it clean by frequent washings. Wash the car in lukewarm or cold water.

Do not use hot water or wash in the direct rays of the sun. Do not use strong soap or chemical detergents. All cleaning agents should be promptly flushed from the surface and not allowed to dry on the finish.

Polishing and Waxing Your Car

Polishing is recommended to remove accumulated residue and eliminate any "weathered" appearance.

Your Pontiac dealer offers several polishes and cleaners which have proven value in maintaining original finish appearance and durability.

Protection of Exterior Bright Metal Parts

Bright metal parts should be cleaned regularly to keep their luster. Washing with water is all that is usually needed. However, GM Chrome Polish may be used on **chrome** or **stainless steel** trim, if necessary.

Use special care with **aluminum** trim. Never use auto or chrome polish, steam or caustic soap to clean aluminum. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

Cleaning Aluminum Wheels

Preserve the original appearance of optional aluminum wheels by keeping them clean and free from build-up of road dirt and/or road salt. Regular cleaning followed by a coat of paste wax (such as GM 1050237 "Finish Guard") is recommended.

Foreign Material Deposits

Calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, and other foreign matter may damage vehicle finishes if allowed to remain on painted surfaces.

Prompt washing may not completely remove all of these deposits. Additional cleaners may be needed. When using chemical cleaners developed for this purpose, be certain they are safe for use on painted surfaces.

Finish Damage

Any stone chips, fractures or deep scratches in the finish should be repaired promptly. Exposed metal will corrode quickly and may develop into major repair expense.

Minor chips and scratches can be repaired using touch-up materials available from your Pontiac dealer. Larger areas of damage to the finish can be corrected in your dealer's body and paint shop.

Cleaning White Sidewall Tires

Use GM White Sidewall Tire Cleaner or a tire cleaner which will not harm wheel aluminum trim. A stiff brush may be used with the cleaner.

CLEANING THE OPTIONAL VINYL TOP

The top should be washed often with neutral soap suds, lukewarm water and a brush with soft bristles. Rinse top with plenty of clear water to remove all traces of soap.

If the top needs additional cleaning, a mild foaming cleanser can be used such as GM Multi-Purpose Powdered Cleaner. (Do not use volatile-type cleaners or household bleaching agents on the top material.)

- Rinse the top with water; then, on an area of about two square feet (0.2 square metres), apply a mild foaming type cleanser.
- Scrub area with a soft bristle brush, adding water as needed until the cleanser foams to a soapy consistency.
- Wipe off cleanser with a cloth or sponge. Apply more cleanser to the area, and scrub until the top is clean.
- To avoid streaking, keep the cleanser from running onto the body finish.
- Rinse top with plenty of clear water to remove all traces of cleanser.

CORROSION PROTECTION

Generally, your car has been designed and built to resist corrosion. Special materials and protective finishes were applied to most parts of your car when it was built to help maintain good looks, strength and reliable operation. However, some parts which are normally not visible (such as certain parts under the car and under the hood) are strong enough so that surface rust will not affect their reliability. So corrosion

protection is not needed or used on these parts. By omitting unneeded rust protection on such parts and applying extra protection where it is needed most, best value is assured for the car buyer.

Sheet Metal Damage


If your car is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to the parts repaired or replaced so that corrosion protection is restored. We recommend the application of GM Guard-Mor or equivalent rust preventive material. (Also see "Finish Damage" in this section.)

UNDERBODY MAINTENANCE

Corrosive materials used for ice and snow removal and dust control can collect on the underbody. If these materials are not removed, accelerated corrosion (rust) can occur on underbody parts such as fuel lines, frame, floor pan, and exhaust system even though they have been provided with corrosion protection.

At least every spring, flush these materials from the underbody with plain water. Take care to clean well any areas where mud and other debris can collect. Sediment packed in closed areas of the frame should be loosened before being flushed. If desired, your Pontiac dealer can perform this service for you. Your dealer can also recommend additional underbody rust preventive materials which will help protect your car from corrosion.

APPEARANCE CARE AND MAINTENANCE MATERIALS

GM PART NUMBER	SIZE	DESCRIPTION/SIZE	USAGE
1050091	16 oz. (0.473 L)	Washer Solvent and Gas Line De-Icer	Windshield washing system and gas line
1050017	32 oz. (0.946 L)	Power Steering Fluid	Power Steering
1052277	16 oz. (0.473 L)	Spray-A-Squeak	Weather Strips — stops squeaks on metal-to-metal and metal-to-rubber contact
1050172	16 oz. (0.473 L)	Tar and Road Oil Remover	Removes old waxes, polishes, tar, and road oil
1050173	16 oz. (0.473 L)	Chrome Cleaner and Polish	Removes rust and corrosion on chrome and stainless steel
1050174	16 oz. (0.473 L)	White Sidewall Tire Cleaner	Cleans white and black tires
1050214	32 oz. (0.946 L)	Vinyl/Leather Cleaner	Spot and stain removal on leather or vinyl
1050223	16 oz. (0.473 L)	Finish Guard Cleaner	One step cleaner and wax
1050244	16 oz. (0.473 L)	Fabric Cleaner	Spot and stain removal on cloth and fabric
1052280	12 oz. (0.354 L)	Heat Valve Lubricant	Free up sticky heat risers — general purpose penetrant
1050427	23 oz. (0.680 L)	Glass Cleaner	Glass cleaning and spot cleaning on vinyls
1050429	6 lb. (2.72 kg)	Multi-Purpose Powdered Cleaner	Cleans vinyl and cloth on door trim seats, and carpet also, tires and mats
1052349	16 oz. (0.453 kg)	Lubriplate (White Grease)	Grease for hood, trunk and door hinges and latches
1050729	8 oz. (0.237 L)	Vinyl Top Cleaner	Cleaning of vinyl tops
1051055	16 oz. (0.473 L)	Preservations	Vinyl Top Dressing
1051398	8 oz. (0.237 L)	Spot Lifter	Spot and stain removal on cloth and fabric
1051515	32 oz. (0.946 L)	GM Optikleen	Windshield washer solvent and anti-freeze
1051516	32 oz. (0.946 L)	Washer Solvent and Gas Line De-Icer	Same as 1050001
1051772	20 oz. (0.567 kg)	Presoftened Cleaner/Wax	One step cleaner/waxer
1051855	32 oz. (0.946 L)	Dexron 	Automatic transmissions and Five Speed Manual Transmissions
1051858	16 oz. (0.473 L)	GM Engine Oil Supplement (E.O.S.)	Consult your Dealer for specific usage
1052103	1 gal. (3.785 L)	Permanent Type Coolant and Anti-Freeze	Year round coolant and anti-freeze
1052271	23 oz. (0.680 L)	GM Gear Lubricant	Rear Axle Lubricant
1052272	15 gal. (60 L)	GM Gear Lubricant	Same as 1052271

CAUTION: As with any machine, care should be taken when making any check, doing any maintenance, or making any repair to avoid being injured. Improper or incomplete service could also lead to the car itself not working properly which may result in personal injury, or damage to the car or its equipment. If you have any question about carrying out some service, have the service done by a skilled mechanic.

REPLACEMENT FASTENERS

During car maintenance, any fasteners used to replace older ones must have the same measurements and strength as those removed, whether metric or customary. (The numbers on the heads of metric bolts and on the surfaces of metric nuts show their strength. Customary bolts use radial lines to show this, while most customary nuts do not have strength markings.) Fasteners taken from the car should be saved for re-use in the same spot when possible. Where a fastener cannot be used again, care should be taken to choose a replacement that matches the old one. For information and help, see your Pontiac dealer.

CAUTION: This car has some parts dimensioned in the metric system as well as in the customary system. Some fasteners are metric and are very close in dimension to well-known customary fasteners in the inch system. Mismatched or incorrect fasteners can result in damage to the car or possibly personal injury.

MAINTENANCE SCHEDULE

For owner convenience, a separate folder has been provided with your car which contains a complete maintenance schedule. It also briefly describes the safety, emission control, lubrication, and general service that your car requires.

The Maintenance Schedule folder is supplemented by this section of the Owner's Manual, as well as a Warranty Information folder also furnished with your car. Read all three publications for a full understanding of your car's maintenance needs.

FUEL REQUIREMENTS

Your gasoline engine is designed to use **only unleaded** gasoline. Unleaded gasoline must be used for proper emission control system operation. Its use will also minimize spark plug fouling and extend engine oil life. Using leaded gasoline can damage the emission control system and could result in loss of emission warranty coverage.

Use unleaded gasoline meeting Federal Government regulations. The Federal Government specifies the minimum octane number of unleaded gasoline. Federal regulations require that pumps delivering such gasoline be labeled with the word **unleaded**. Only these pumps are equipped with delivery nozzles which fit the filler neck of your car's gasoline tank.

CATALYTIC CONVERTER

The catalytic converter is an emission control device added to the exhaust system to reduce exhaust gas pollutants. The converter contains a ceramic material coated with noble metal catalysts. With the catalytic converter, the gasoline engine can be tuned for improved fuel economy and driveability.

The catalytic converter requires the use of unleaded gasoline.

Unleaded gasoline is used to reduce combustion chamber deposits, exhaust system corrosion, and to prevent lead contamination of the catalyst. If you use leaded gasoline, the catalytic converter will lose its effectiveness for emission control.

To help prevent damage:

1. Keep your engine properly tuned. Engine malfunctions involving the electrical, carburetion or ignition systems may result in unusually high converter and exhaust system temperatures. **Do not keep driving your car if you detect engine misfire, noticeable loss of performance, or other unusual operating conditions.** Instead, have it serviced promptly. A properly tuned engine will help avoid malfunctions that could damage the converter. It will also help maintain good emission control and gasoline economy. See the Maintenance Schedule folder for information on inspecting and maintaining the engine, exhaust system, and other components.
2. Do not park your car over combustible materials, such as grass or leaves. They could touch the hot exhaust system and ignite.
3. Do not push or tow this car to start it. This could damage the converter.

Disregarding this information could damage the catalytic converter, the vehicle, or nearby property.

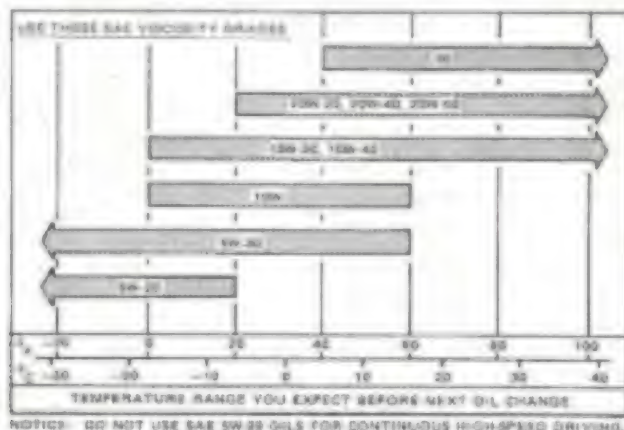
ENGINE OIL AND FILTER RECOMMENDATIONS

- Use only SE-quality engine oils (see markings on containers).
- Change the engine oil and the engine filter as outlined in Section A of the Maintenance Schedule folder.
- The oil and filter change intervals for your engine are based on the use of SE-quality oils and high-quality filters like AC oil filters. Use of non-SE oils or oil change intervals longer than listed in your Maintenance Schedule folder could reduce engine life and might affect your warranty.
- Your engine was filled with an SE-quality engine oil when it was built. You do not have to change this oil before the suggested change period.

Oil Viscosity

Engine oil viscosity (thickness) has an effect on fuel economy. Lower viscosity engine oils can provide increased fuel economy; however, higher

temperature weather conditions require higher viscosity engine oils for satisfactory lubrication. The oil viscosity chart lists the engine oil viscosities that will provide the best balance of fuel economy, engine life, and oil economy.



CHECKING OIL LEVEL

It is the owner's responsibility to keep the engine oil at the proper level. The oil level should be checked at regular intervals (such as every other fuel stop) and maintained above the "Add" line. Keep in mind your engine may use more oil when it is new.

- The best time to check the engine oil level is when the oil is warm, such as during a fuel stop. First, allow about 5 minutes for the oil to drain back to the oil pan. Then pull the dipstick out, wipe it clean, and push it back down all the way. Now pull the dipstick out and look at the oil level on the dipstick. Some dipsticks have "Add" and "Full" lines. Others are marked "Add 1 Qt" and "Operating Range." **In all cases, keep the oil level above the "Add" line.** Push the dipstick back down all the way after taking the reading. Add oil if needed.
- If you check the oil level when oil is cold, do not run the engine first. The cold oil will not drain back to the pan fast enough to give a true oil level.

Engine Oil Additives

There are many extra engine oil helpers or additives for sale. Your engine should not need these extra additives if you use SE-quality engine oil and change it as suggested. If you think your engine has an oil related problem, talk to your Pontiac dealer. If needed, your dealer can provide you with a tested and approved oil additive called "GM Engine Oil Supplement."

AUTOMATIC TRANSMISSION FLUID RECOMMENDATIONS

Use the Proper Fluid

Use only automatic transmission fluids labeled DEXRON® II. You can buy this fluid from your Pontiac dealer or other service outlets.

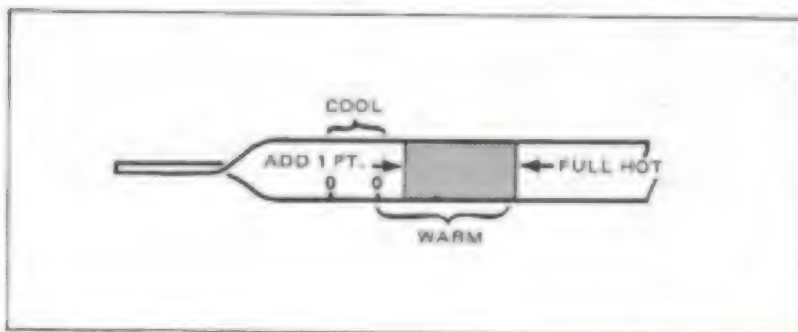
Check the Fluid Level with Care

Check the automatic transmission fluid level at each engine oil change. Before checking the fluid level, set the parking brake and then start the engine. Apply the regular brakes and then move the shift lever through all of the gear ranges, ending in "Park." You must check the fluid level with the engine running at slow idle and the car level.

NOTICE: You cannot read the correct fluid level if you have just driven the car for a long time at high speed, in city traffic in hot weather, or if the car has been pulling a trailer. Wait until the fluid has cooled down (about 30 minutes).

Remove the dipstick located at the rear of the engine compartment. Carefully touch the wet end of the dipstick to find out if the fluid is cool, warm or hot. Wipe it clean and push it back in until the cap seats. Pull out the dipstick and read the fluid level.

- If it felt cool (about room temperature), the level should be $1/8$ to $3/8$ inch (3 to 10 millimetres) below the "Add" mark. The dipstick has two dimples below the "Add" mark to show this range.
- If it felt warm, the level should be close to the "Add" mark (either above or below).
- If it was too hot to hold, the level should be at the "Full" mark.



Add just enough DEXRON® II fluid to fill the transmission. It takes only one pint (0.5 litre) to raise the level from "Add" to "Full" with a hot transmission.

Do not overfill the transmission. Overfilling can cause foaming and loss of fluid, which could result in transmission damage. Automatic

transmissions are often overfilled because the fluid level is checked when the fluid is cold. When cold, the dipstick shows that fluid should be added. However, the cold low reading is normal; the fluid level will rise about 3/4 inch (19 millimetres) as the fluid warms up from 60°F to 180°F (16°C to 82°C).

Automatic Transmission Drain Intervals

Change the transmission fluid and change the filter (or clean the screen) as outlined in Section A of the Maintenance Schedule folder.

ENGINE COOLING SYSTEM

The coolant recovery system is standard. The coolant in the radiator expands with heat, and the overflow is collected in the recovery tank. When the system cools down, the coolant is drawn back into the radiator.

The cooling system has been filled at the factory with a quality coolant that meets GM Specification 1899-M. Because the cooling system has been designed to use coolant rather than plain water, the coolant solution should be used year round. It has many advantages, such as:

- provides freezing protection down to -34°F (-37°C),
- provides boiling protection up to 262°F (128°C),
- protects against rust and corrosion in the cooling system,
- maintains the proper engine temperature for efficient operation and emission control, and
- allows proper operation of the coolant hot light or gage.

See Section A of the Maintenance Schedule folder to find out when the coolant must be replaced.

COOLING SYSTEM CARE

It is not usually necessary to remove the radiator cap to check coolant level. Lift the hood and look at the "see through" coolant recovery tank. This should be done at regular intervals, such as during fuel stops. When the engine is cold, the coolant level should be at or slightly above the "Add" ("Cold") mark on the tank. When the engine has fully warmed up, the level should be at or slightly below the "Full" ("Hot") mark on the tank. If the coolant level is low, remove the cap on the coolant recovery tank. Add enough of a 50/50 mixture of a good quality ethylene glycol (antifreeze) and water to the tank to bring the level up to the proper mark. Reinstall the cap on the tank.

There are conditions which can happen, such as air being trapped in the system, that may affect the coolant level in the radiator. It is recommended that the coolant level in the radiator be checked at periodic



intervals such as at the time of engine oil changes when the engine is cold. Follow steps 1, 8, 9, and 10 of the following section "Coolant Replacement" for radiator cap removal and coolant addition method.

If coolant has to be added more than four times a year either to the recovery tank or to the radiator, see your dealer for a cooling system check.

NOTICE: If the proper quality antifreeze is used, there is no need to add extra inhibitors or additives that claim to improve the system. They may be harmful to the proper operation of the system.

COOLANT SYSTEM SERVICE

The cooling system should be serviced at the time/mileage specified in Section A of the Maintenance Schedule folder as follows:

1. Wash the radiator cap and filler neck with clean water. See step 1 of "Coolant Replacement" to remove radiator cap.
2. Check the coolant level in the radiator and have it tested for freeze protection. Add ethylene glycol antifreeze, if needed, to maintain the specified freeze protection.
3. Have the cooling system and radiator cap tested for a proper pressure capacity of 15 psi (105 kPa). If a replacement cap is needed, use an AC-Delco cap, or an equivalent cap, designed for coolant recovery systems and specified for your model.
4. Tighten all radiator and heater hose clamps and inspect all hoses. Replace the hoses if they are swollen, "checked," or otherwise worn.
5. Clean the front of the radiator core and air conditioning condenser to remove dirt and other objects. Also clean the auxiliary engine and/or transmission oil cooler if the car has them.

COOLANT REPLACEMENT

At the time/mileage specified in Section A of the Maintenance Schedule folder, the cooling system should be flushed and refilled as follows:

1. Remove the radiator cap when the engine is cool:
 - Turn the cap slowly to the left until it reaches a "stop." (Do not press down while turning the cap.)
 - Wait until the pressure is relieved (indicated by a hissing sound), then press down on the cap and continue to turn it to the left.

CAUTION: To help avoid the danger of being burned, do not remove the radiator cap while the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure if the cap is taken off too soon.

2. When the cap is removed, run the engine until the upper radiator hose is hot (this shows that the thermostat is open and the coolant is flowing through the system).
3. Stop the engine and open the radiator drain valve to drain the

coolant. (Drainage may be speeded by removing the drain plugs in the block.)

4. Close the drain valve (install block drain plugs, if removed). Add water until the system is filled and run the engine until the upper radiator hose is hot again.
5. Repeat steps 3 and 4 several times until the drained liquid is nearly colorless.
6. Drain the system and then close the radiator drain valve tightly. (Install block drain plugs, if removed.)
7. Disconnect all hoses from the coolant recovery tank. Remove the tank and pour out any fluid. Scrub and clean the inside of the tank with soap and water. Flush it well with clean water and drain. Reinstall the tank and hoses.
8. Add enough ethylene glycol coolant (meeting GM Specification 1899-M) and water to provide the required cooling, freezing, and corrosion protection. Use at least a 50 percent solution, -34°F (-37°C), but no more than a 70 percent solution. Fill the radiator to the base of the filler neck and fill the coolant recovery tank to the "Full" ("Hot") mark. Install recovery tank cap.
9. Run the engine, with the radiator cap removed, until the upper radiator hose is hot.
10. With the engine idling, add coolant to the radiator until it reaches the bottom of the filler neck. Install the radiator cap, making sure that the arrows on the cap line up with the overflow tube.

It is the owner's responsibility to:

- Maintain cooling system freeze protection at -34°F (-37°C) to ensure protection against corrosion and loss of coolant from boiling. This should be done even if freezing temperatures are not expected.
- Add ethylene glycol base coolant that meets GM Specification 1899-M when coolant has to be added because of coolant loss or to provide added protection against freezing at temperatures lower than -34°F (-37°C).

NOTICE: Alcohol or methanol base coolants or plain water alone should not be used in your car at any time. They will boil at a lower point than that at which the hot light indicator (or temperature gage) works, and they do not provide proper protection against corrosion.

THERMOSTAT

The engine coolant temperature is controlled by a thermostat. It stops coolant flow through the radiator until a preset temperature is reached. This thermostat is installed in the engine coolant outlet on the engine block. The same thermostat is used in both winter and summer. When a replacement is needed, Delco parts are recommended.

REAR AXLE--STANDARD

See Section A of the Maintenance Schedule folder to find out how often the lubricant level should be checked.

Add lubricant, if needed, to fill to level of filler plug hole. Use SAE 80W GL-5 or SAE 80W-90 GL-5 gear lubricant. (For those cars driven in Canada, use SAE 80W GL-5 gear lubricant.) You can also use GM 1052271 or GM 1052272 gear lubricant, available at your Pontiac dealer.

REAR AXLE--LIMITED-SLIP DIFFERENTIAL

See Section A of the Maintenance Schedule folder to find out when the lubricant should be drained and refilled.

To refill, add four ounces (0.118 litres) of GM 1052358 lubricant additive, then fill to level of filler plug hole with special gear lubricant GM 1052271 or GM 1052272. You can buy this product from your Pontiac dealer.

MANUAL TRANSMISSION

See Section A of the Maintenance Schedule folder to find out how often the lubricant level should be checked.

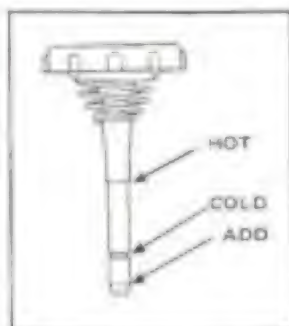
Add lubricant, if needed, to fill to level of filler plug hole. Use SAE 80W GL-5 or SAE 80W-90 GL-5 gear lubricant. For those cars driven in Canada, use SAE 80W GL-5 gear lubricant.

POWER STEERING SYSTEM

Check the fluid level in the power steering pump at each engine oil change. Add GM Power Steering Fluid (GM-1050017) as needed:

- If fluid is warmed up (about 150°F or 66°C -- hot to the touch), it should be between "Hot" and "Cold" marks on the filler cap indicator.
- If cool (about 70°F or 21°C), fluid should be between "Add" and "Cold" marks.

This fluid does not need periodic changing.



CAUTION: If the air cleaner is removed during repair or maintenance, be sure to put it back on correctly. If the air cleaner is not correctly installed, there could be a fire in the engine compartment (if there should happen to be a backfire), or other engine malfunction.

FREEDOM BATTERY

Your new car has a Delco FREEDOM battery. It needs no periodic maintenance. Its top is permanently sealed (except for two small vent holes) and has no filler caps. You will never have to add water.

The hydrometer (test indicator) in the top of the battery provides information for testing purposes only.

For full power needs at replacement time, the Delco battery catalog number shown on the battery label is recommended.



CAUTION: Follow the precautions listed in the Jump Starting Caution (see the "In Case of Emergency" section of this manual) when working on or near the battery. Personal injury (particularly to eyes) or property damage may result from battery explosion, battery acid, or electrical (short circuit) burns.

TIRES

The tires installed on your car are engineered to provide a proper balance of these performance characteristics under normal driving conditions.

- Endurance
- Handling
- Noise
- Ride
- Road Hazard Resistance
- Rolling Resistance
- Traction
- Tread Mileage

This section contains some tips on how you can obtain the most benefit from these tires.

Vehicle Loading

The tires on your car will perform well at all normal loads when inflated as recommended on the Tire Placard (located on the left front door of your car). Do not load your car beyond the load limits (total pounds or kilograms) shown on the Tire Placard. The placard tells you the design limits of the car, not just of the tires.

If tires are other than load range B (or standard load range for metric size tires), the load range will appear after the tire size stated on the Tire Placard. For example: BR78-13/C is a load range C tire.

VEHICLE CAPACITY					COLD TIRE PRESSURE	
WEIGHT	FRT	CTR	RR	TOTAL	FRONT	REAR
MAX. LOAD					RECOMMENDED FOR FUEL ECONOMY	
OPTIONAL PRESSURES						
TIRE SIZE						
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION						

LUGGAGE/CARGO LOAD CAPACITY		
MAXIMUM LUGGAGE COMPARTMENT LOAD		
	POUNDS	(KILOGRAMS)
ALL	200	(90)
NOTICE: Total combined weight of luggage compartment load, luggage rack load (when equipped), and passengers must not exceed the vehicle capacity weight (shown on the Tire Placard on the left front door).		

Inflation Pressure

The cold inflation pressures listed on the Tire Placard provide for the best balance of tire life, riding comfort, and vehicle handling under normal driving conditions. Use of the highest pressures shown on the placard will result in improved fuel economy. For those owners who prefer the utmost in comfort, the optional tire pressures listed on the placard may be used.

Incorrect tire inflation pressures can have adverse affects on tire life and vehicle performance. Too low an air pressure causes increased tire flexing and heat build-up. This weakens the tire and increases the chance of damage or failure. It can result in tire overloading, abnormal tire wear, adverse vehicle handling, and reduced fuel mileage. Too high an air pressure can result in abnormal wear, harsh ride, and also increase the chance of damage from road hazards.

Tire inflation pressures should be checked (this includes the spare tire, unless it is a stowaway spare) at least monthly and when significantly

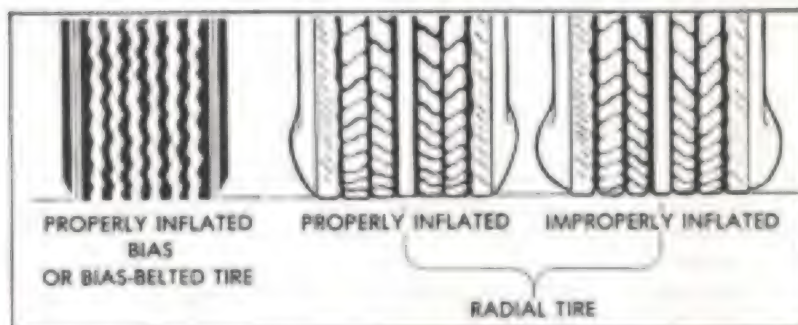
changing the load you plan to carry in your car. Always check tire inflation pressures when tires are "cold."

1. The "cold" tire inflation pressure applies to the tire pressure when a car has not been driven more than one mile (1.6 kilometres) after sitting for three hours or more.
2. It is normal for tire pressures to increase 4 to 8 pounds per square inch (30-60 kilopascals) or more when the tires become hot from driving. **Do not** "bleed" or reduce tire inflation pressures after driving your car. Bleeding serves to reduce "cold" inflation pressure and increase tire flexing, which can result in tire damage and failure.
3. **For sustained driving at speeds of 75 mph to 85 mph (120 km/h to 140 km/h), in countries where such speeds are permitted by law, cold inflation pressures must be increased 4 psi (30 kPa) above the stated cold inflation pressures on the Tire Placard up to the maximum for each load range stated in the chart below. Sustained speeds of 75 mph to 85 mph (120 km/h to 140 km/h) are not advised when the 4 psi adjustment would require pressures greater than the maximum for each load range stated on the chart. Sustained driving at speeds over 85 mph (140 km/h), where permitted by law, is not advised unless your car is equipped with special high speed tires available from many tire dealers.**

<u>Tire Load Range</u>	<u>Maximum Inflation Pressure</u>
B	32 psi (220 kPa)
C	36 psi (250 kPa)
D	40 psi (275 kPa)
Standard (Metric tires)	240 kPa (35 psi)
Extra (Metric tires)	280 kPa (41 psi)

Tire load range is stamped on the tire. (See illustration under "Tire Replacement" in this section for location on tire sidewall).

4. For proper inflation pressures when towing trailers, see "Trailer Towing" in this manual.
5. Always use a tire pressure gage (a pocket type gage is advised) when checking inflation pressures. Visual inspection of tires for inflation pressures is not enough, especially in the case of radial tires. Underinflated radial tires may look similar to correctly inflated radial tires. If the inflation pressure on a tire quite often is found to be low, have your dealer correct the cause.
6. Be sure to reinstall the tire inflation valve caps, if so equipped, to prevent dirt and moisture from getting into the valve core which could cause air leakage.
7. If an air loss occurs while driving, do not drive on the deflated tire more than is needed to stop safely. Driving even a short distance on a deflated tire can damage a tire and wheel beyond repair.



Inspection and Rotation

Front and rear tires perform different jobs and can wear differently depending on the types of roads driven, your driving habits, etc. To obtain maximum tire life, you should inspect and rotate your tires regularly.

(See Section A of the Maintenance Schedule folder for recommended rotation intervals.) Many car and tire dealers will perform a free tire inspection to look for uneven or abnormal tire wear (usually the result of wrong inflation pressures, lack of regular rotation, improper wheel alignment, tires out of balance, or poor driving habits).

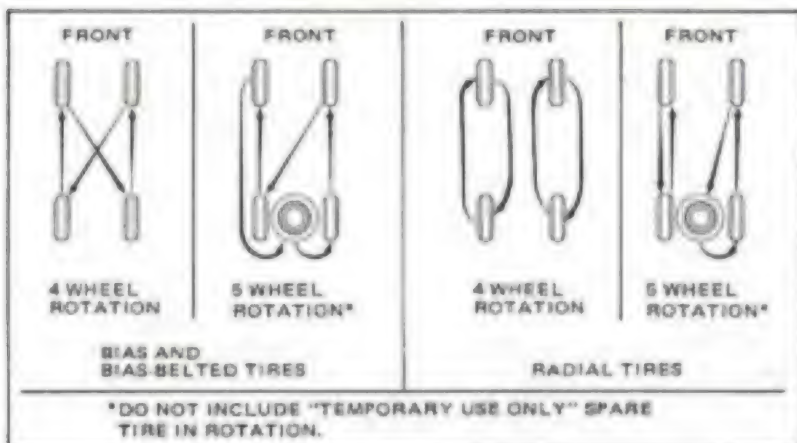
After rotation, adjust the front and rear tire pressures (see Tire Placard) and be sure to check wheel nut tightness. (Wheel nuts should also be tightened at certain intervals; see the "In Case of Emergency" section, "Jacking Instructions," for further information.

CAUTION: Before installing wheels, remove any build-up of corrosion on the wheel mounting surface and brake drum or disc mounting surface by scraping and wire brushing. Installing wheels without good metal-to-metal contact at the mounting surfaces can cause wheel nuts to loosen, which can later allow the wheel to come off while the car is moving, possibly causing loss of control.

Alignment and Balance

Proper wheel alignment improves tire tread mileage. Your car's suspension parts should be inspected often and aligned when needed. (See the Maintenance Schedule folder for more information.) Ball joints have built-in wear indicators, and some movement in the joints is normal. Improper alignment will not cause the car to vibrate. However, improper toe alignment will cause the tires to roll at an angle which will result in faster tire wear. Incorrect caster or camber alignment will cause your tires to wear unevenly, and can cause the car to "pull" to the left or right.

Proper tire balancing provides the best riding comfort and helps to reduce tire tread wear. Out-of-balance tires can cause annoying vehicle vibration and uneven tire wear such as cupping and flat spots.



Traction

A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tire and road surface. This is known as hydroplaning, and may cause partial or complete loss of traction, vehicle control, and stopping ability.

To reduce the chance of traction loss, follow these tips:

1. Slow down during rainstorms or when roads are slushy.
2. Slow down if road has standing water or puddles.
3. Replace tires when tread wear indicators are showing.
4. Keep tires properly inflated.

If your car has radial tires with a TPC Spec No. (Tire Performance Criteria Specification Number) molded into the sidewall near the tire size marking, your tires were designed to provide better snow traction than bias or bias-belted tires without snow treads. However, if you equip your car with snow tires, use snow tires of the same size, load range, and construction type (bias, bias belted, or radial) as your other tires. Vehicle speeds should be limited to 75 mph (120 km/h) if snow tires are used.

Tire Chains or Similar Traction Devices

To prevent chain damage to your car:

- Install the chains as tightly as possible, then tighten again after driving 1/4 to 1/2 mile (0.4 to 0.8 kilometre).
- Do not exceed 45 mph (70 km/h), or chain manufacturer's speed limit, if lower.

- Drive in a restrained manner and avoid large bumps, potholes, severe turns and other maneuvers which could cause the tires to bounce up and down.
- Follow the chain manufacturer's instructions. If you have a Trans Am equipped with 8" wheels, tire chains should not be used. They could contact and possibly damage the wheel wells.

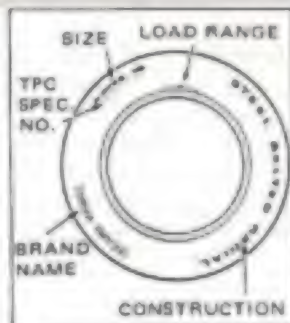
Spare Tire

For the use and installation of your spare tire, see the "In Case of Emergency" section of this manual.

Tire Replacement

CAUTION: Do not mix different construction types of tires on your car such as radial, bias, and bias-belted except in emergencies, because the car's handling could be affected and may result in loss of control. This caution does not apply to a stowaway, compact, or temporary spare tire furnished with your car.

On most vehicles originally equipped with radial tires, you will find a TPC Spec. No. (Tire Performance Criteria Specification Number) molded into the tire sidewall near the tire size marking. This shows that the tire meets rigid size and performance standards which were developed for your Firebird, Esprit, Formula or Trans Am. The TPC Spec. No. assures a proper combination of endurance, handling, load capacity, ride, and traction on wet, dry, snow covered surfaces. When you replace your tires with tires having the same TPC Spec. No., your new tires will be compatible with your Firebird, Esprit, Formula or Trans Am.



When replacing tires with those not having a TPC Spec. No., you should use the same size, load range, and construction type (bias, bias-belted, or radial) as the original tires on your car. Although it is not generally recommended, some alpha and metric size tires can be interchanged (for size equivalency contact your tire dealer). A different size or type tire may affect ride, handling, speedometer/odometer calibration, vehicle ground clearance, and tire or tire chain clearance to the body and chassis. If replacing only a single tire, it should be paired on the same axle with the least worn tire of the other three.

You should replace your tires when . . .

1. Your tires are worn to a point where $\frac{2}{32}$ inch (1.6 millimetres) or less tread remains, or cord or fabric is exposed.
To help you detect this, your tires have built-in tread wear indicators that appear between the tread grooves when the tread is $\frac{2}{32}$ inch (1.6 mm) or less. When the indicators appear in two or more adjacent grooves at three spots around the tire, the tire should be replaced.
2. Your tire tread or sidewall is cracked, cut, or snagged deep enough to expose the cord or fabric.
3. Your tire has a bump, bulge, or split.
4. Your tire sustains a puncture, cut, or other injury that can't be correctly repaired because of the size or location of the injury.



Wheel Replacement

Wheels must be replaced if they become damaged. For example, replace wheels if wheel nuts often become loose or if the wheels are bent, cracked, or heavily rusted. Also replace wheels that leak air (except some aluminum wheels which can be repaired — see your Pontiac Dealer). Do not use bent wheels which have been straightened, and do not use inner tubes in leaking wheels which are designed for tubeless tires. Such wheels may have structural damage and could fail without warning. When replacing wheels for any reason, the new wheels should be equal in load limit, diameter, width, offset, and mounting configurations to those originally installed on your car.

A wheel of the wrong size or type may adversely affect wheel and bearing life, brake cooling, speedometer/odometer calibration, stopping ability, headlight aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis. Replacement with "used" wheels is not advised: they may have been subjected to harsh treatment or very high mileage and could fail without warning.

Replacement wheels can be obtained from your Pontiac dealer.

Warranty

Tires are warranted by the tire manufacturers. Warranty information is included in the manufacturer's warranty folder furnished with your car.

HOOD LATCH

The hood latch release handle is located at the lower left side of the bumper.

A sharp pull on the hood release handle will allow the hood to pop-up.

If hood does not fully release, push down on hood while again pulling on the release handle.



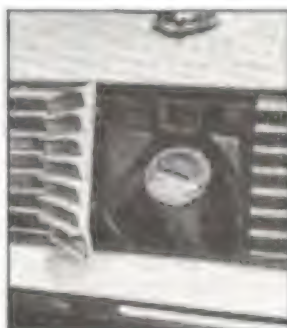
FUEL FILLER

The fuel filler is located behind an access door in the center of the rear panel above the rear license plate.

To remove cap, simply:

- Unscrew counterclockwise.
- To replace, screw cap clockwise until a "ratcheting" sound is heard.

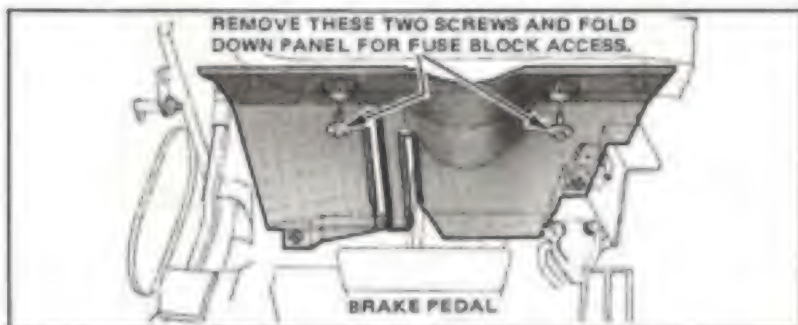
NOTICE: If the fuel cap needs replacing, use only a cap with these same features. Failure to use the right cap can result in a serious malfunction of the fuel system or emission control system. Correct replacement caps may be obtained from your Pontiac dealer.



SPARE TIRE AND TOOLS

Unlock the rear compartment lid with the oval head key to gain access to spare tire and tools.

(See "JACKING" in Section 3.) Close lid firmly to lock.

FUSE, FLASHER OR HORN RELAY LOCATION

Access to fuses, flashers and horn relay will require removal of the hush panel at the left lower instrument panel area.

(For identification of fuse block components, see "Specifications" in Section 7 of this manual.)

Your satisfaction and goodwill are important to your dealer and to us. Normally, any problems with the sales transaction or the operation of your car will be handled by your dealer's Sales or Service Departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your problem has not been handled to your satisfaction, we suggest you follow these steps:

STEP ONE - Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Sales or Service Manager, contact the owner of the dealership or the General Manager.

STEP TWO - Contact the Pontiac Zone Office closest to you listed on the following pages (or in Canada, contact the General Motors Zone Office). If your problem can't be quickly resolved by the dealership without further help, contact the Zone's Customer Services Department, and provide them with:

- Your name, address and telephone number
- Vehicle Identification Number (This is available from the vehicle registration or title, or the plate attached to the left top of the instrument panel and visible through the windshield.)
- Dealer's name and location
- Vehicle's delivery date and present mileage
- Nature of problem

STEP THREE - Contact the Customer Services Representative, Pontiac Central Office, One Pontiac Plaza, Pontiac, Michigan 48053, (telephone number 313/857-1315). (In Canada, contact the Customer Services Representative, General Motors of Canada Ltd., Oshawa, Ontario, L1J 5Z6; 416/644-6624.) The representative will review all the facts involved. Then, if it is felt some further action can be taken, the zone will be so instructed. In any case, your contact will be acknowledged providing Pontiac's position in the matter.

When contacting the Zone or Central Office, please bear in mind that your problem will likely be resolved in the dealership, using the dealer's facilities, equipment and personnel. So it is suggested that you follow the above steps in sequence when you have a problem.

Your purchase of a Pontiac product is greatly appreciated by both your dealer and Pontiac Motor Division. We want to help you in any way we can to make sure you are completely satisfied with your car.

PONTIAC ZONE OFFICES

When calling for assistance, please ask for the Consumer Advisor.

Atlanta, Georgia 30302
5730 Glenridge Dr.
P.O. Box 60303
(404) 256-6442

Boston,
Wellesley, MA 02181
45 William Street
Wellesley Office Park
(617) 237-6910

Buffalo,
Williamsville, NY 14221
Georgetown Square
5225 Sheridan Dr.
at Evans St.
(716) 634-7870

Charlotte, NC 28209
Park Abbey Bldg.
Suite 528 4600 Park Rd.
P.O. Box 11564
(704) 371-9220

Chicago,
Oak Brook, IL 60521
Suite 550
P.O. Box 8530
Oak Brook Bank Bldg.
2021 Spring Rd.
(312) 654-6452

Cincinnati, OH 45222
Suite 730
P.O. Box 37823
7162 Reading Road
(513) 841-6805

Cleveland, OH 44116
235 Westgate Tower
Building
20526 Center Ridge Rd.
(216) 265-5800

Dallas,
Irving, TX 75062
130 East Carpenter Freeway
Mail: P.O. Box 220122
Dallas, TX 75222
(214) 659-6024

Denver,
Englewood, CO 80110
Suite 810
1st National Bank of
Englewood
333 W. Hampden Avenue
(303) 320-5160

Detroit,
Southfield, MI 48037
25200 Telegraph Road
P.O. Box 5009
(313) 857-1321

Houston, TX 77205
P.O. Box 60745, AMF
16630 Imperial Valley Drive
Suite 116
(713) 931-7250

Jacksonville, FL 32211
Suite 800
Barnett Regency Tower
9550 Regency Square Blvd.
(904) 724-2842

Kansas City,
Mission, KS 66202
502 Foxridge Towers
6700 Broadmoor
(913) 281-6833

Los Angeles,
Westlake Village, CA 91361
The Townsgate Executive Bldg., Ltd.
2659 Townsgate Road
Mail: P.O. Box 5015
Thousand Oaks, CA 91359
(213) 991-4310

Memphis, TN 38117
5350 Poplar Avenue
Suite 220
(901) 761-4720

Milwaukee,
Brookfield, WI 53005
Suite 142
165 Bishop's Way
(414) 784-0410

Minneapolis, MN 55435
Suite 300
7600 Parklawn Avenue
(612) 830-4258

Newark,
Saddle Brook, NJ 07662
Park 80 Plaza West-One
Garden State Parkway
at Interstate 80
(201) 845-0804

New York,
Tarrytown, NY 10591
555 White Plains Road
(914) 332-0770

Oklahoma City, OK 73112
Suite 200
National Foundation West
Building
3555 NW 58th Street
(405) 525-4135

Omaha, NE 68114
Suite 301
Regency Office Park
10050 Regency Circle
(402) 399-5454

Philadelphia,
Cherry Hill, NJ 08034
Cherry Hill Plaza
1415 E. Marlton Pike
P.O. Box 3305
(609) 795-3304 (NJ)
(215) 629-1538 (PA)

Pontiac Zone Offices (Continued)

Pittsburgh, PA 15220
Seven Parkway Center
875 Greentree Road
(412) 928-5055

Portland, OR 97201
701 Bolan Cascade Bldg.
1600 S.W. 4th Avenue
(503) 238-7911

San Francisco,
Fremont, CA 94538
36465 Paseo Padre
Parkway, Suite 3700
(415) 498-5157

St. Louis, MO 63141
The Plaza Tower
111 West Port Plaza
Suite 1101
(314) 679-5700

Washington,
Rockville, MD 20852
Suite 201
1776 E. Jefferson Street
(301) 770-3420
(301) 770-2070

ADDITIONAL GM OFFICES

MEXICO

G.M. De Mexico S.A.
de C.V.
Av. Ejercito Nacional
No. 643
Mexico 5, D.F.
Mail - Apartado 107 Bis
Mexico 1, D.F.
5 45-70-20

PUERTO RICO

U.S. VIRGIN ISLANDS
General Motors Overseas
Distribution Corp.
Suite No. 10
Centro Comercial San
Francisco
Avenida De Diego
Rio Piedras, Puerto Rico
Mail - G.P.O. Box 4382
San Juan, Puerto Rico
00936
(809) 763-1315

PANAMA

General Motors Overseas
Distribution Corp.
Edificio De Diego
Esq. Calle 40 Y
Avenida Balboa
Panama, R.P.
Mail - Apartado 7872
Panama 9, Republic of
Panama 25-1983

HAWAII, GUAM, AMERICAN
SAMOA

General Motors Overseas
Distribution Corp.
1600 Kapiolani Boulevard
Suite 714
Honolulu, Hawaii
Mail - P.O. Box 341
Honolulu, Hawaii 96809
(808) 946-3958

GENERAL MOTORS OF
CANADA ZONE OFFICES

Calgary, Alberta T2P 2M7
4220 Blackfoot Trail
P.O. Box 2510
(403) 243-4621

London, Ontario N6A 4P6
951 Pond Mills Road
P.O. Box 5412
(519) 452-5151

Moncton, N.B. E1C 8M2
663 St. George St.
(506) 854-1500

Montreal, Quebec H9R 4R2
5000 Trans-Canada Highway
Point Claire, Quebec
(514) 697-9160

Ottawa, Ontario K1G 0Z4
875 Belfair Road
(613) 237-8051

Regina, Saskatchewan S4N 5A9
581 Park Street
(306) 543-2224

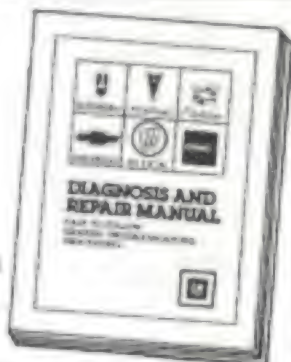
Ste. Foy (Quebec), Quebec
G1V 4K7
979 Avenue de Bourgogne
P.O. Box 10800
(418) 653-2054

Toronto, Ontario M3C 1J1
1200 Eglinton Avenue, East
(416) 446-5053

Vancouver, B.C. V6A 2N6
900 Terminal Avenue
(604) 684-9444

Winnipeg, Manitoba R2X 0Y9
1345 Redwood Avenue
(204) 633-1080

GENERAL MOTORS DIAGNOSIS & REPAIR MANUAL



The new GMDR Manual is a **troubleshooting guide**. It helps find the cause of a car's most frequent mechanical problems.

A new symbol and picture format simplifies the step-by-step troubleshooting procedures. . . makes them easy to read and understand.

Helps do-it-yourselfers with repairs as well as owners who just want to know what repairs will probably fix a problem.

The 224-page Manual covers most new GM car mechanical systems including:

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- Steering & Suspension
- Wheels & Tires
- Transmission
- Chassis & Body Electrical
- Engine Performance

TO ORDER THE GMDR MANUAL:

Send your **name** and **address** (print clearly) along with a **check** or **money order** for \$4.95 (Michigan Purchasers add 4% Sales Tax) plus 50¢ shipping & handling to: **GMDR Manual Headquarters**

Make Check or Money Order Payable to: **P.O. Box 1185**
GMDR MANUAL HEADQUARTERS **Southfield, Michigan 48075**

(prices are subject to change without notice or obligation)

Canadian residents should order publications from the Technical Publications Department, General Motors of Canada Limited, Oshawa, Ontario L1J 5Z5.

If you have discussed a problem with your dealer management and have not been able to resolve it, let us know. Here is a convenient form you may wish to use to contact the Zone Office.

After completing this form, mail it to: CONSUMER ADVISOR, Pontiac Motor Division. Address it to the Zone Office closest to you. (See Zone Office addresses on previous pages.)

(cut here)

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE NUMBER (DURING DAY): _____

VEHICLE IDENTIFICATION NUMBER: _____

DEALER'S NAME: _____ CITY: _____

DATE PURCHASED: _____ PRESENT MILEAGE: _____

COMMENTS: _____

(cut here)

Signed: _____

Date: _____

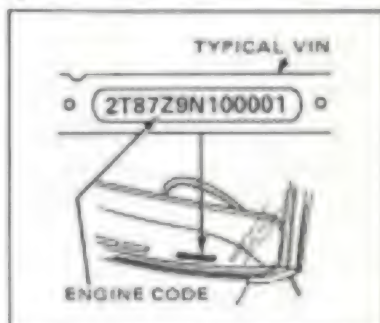
SPECIFICATIONS, SERVICE MANUALS, INDEX, GAS STATION INFORMATION

These specifications are given here for information only. Before using them, see the cautions and other instructions throughout this manual. For further information, see the service manual covering the chassis or body part in question. Your Pontiac dealer may also be able to help.

GENERAL DATA

Vehicle Identification Number (VIN)

This is the legal identification of the vehicle. It appears on a plate which is attached to the left top of the instrument panel. This plate can be easily seen through the windshield from outside your car (see illustration). The VIN also appears on the Vehicle Certificates of Title and Registration.



Engine Identification

You can identify your 1979 GM engine from the Vehicle Identification Number. The fifth character of your VIN is the Engine Code. See the Engine Code Identification chart below. Certain information in this manual may refer to the Engine Code.

1979 ENGINE CODE IDENTIFICATION

VIN ENGINE CODE	ENGINE DESCRIPTION				PRODUCED IN GM PLANT OPERATED BY:
	DISPLACEMENT Litres (Cu. In.)	TYPE	CARBURETOR BARRELS (NO.)		
A	3.8 (231)	V-6	2		BUICK MOTOR DIVISION
G	5.0 (305)	V-8	2		CHEVROLET MOTOR DIVISION OR GM OF CANADA
K	6.6 (403)	V-8	4		OLDSMOBILE DIVISION
L	5.7 (350)	V-8	4		CHEVROLET MOTOR DIVISION OR GM OF CANADA
W	4.9 (301)	V-6	4		PONTIAC MOTOR DIVISION
Y	4.9 (301)	V-6	2		PONTIAC MOTOR DIVISION
Z	6.6 (400)	V-8	4		PONTIAC MOTOR DIVISION

LIGHT BULBS

Replace With GM Guide Lamps

LOCATION	BULB NUMBER
Air Conditioning Control	194
Ash Tray	Fiber Optic
Back-Up Light	1156
Brake Warning Light	194
Cigar Lighter Illumination	1445
Clock	Cluster Illumination
Courtesy	89
Dome Lamp	561
Engine Temperature Telltale	194
Fuel Gage and Voltmeter (Rally)	1895
Generator Telltale	194
Glove Box	1891
Headlamps - Outer (Type 2A)	4652
Headlamps - Inner (Type 1A)	4651
Headlamp High Beam Indicator	194
Heater Control Panel	194
Instrument Cluster Illumination	194
License Plate	194
Luggage Compartment	1003
Marker Lights - Front and Rear	194
Oil Pressure Indicator	194
Parking Lights	1157NA
Radio Illumination - Except Tape Player	194
Radio Illumination (Integral Tape Player)	1893
Reading Lamp	1004
Seat Belt Warning	194
Stop Light	1157
Tachometer	Cluster Illumination
Tail Light	1157
Transmission Shift Indicator (Auto)	1445
Turn Signal - Front	1157NA
Turn Signal - Rear	1157
Turn Signal Indicator	194

WHEELBASE -- 108.2"	ENGINE VIN CODE*	A	G	L	K	W	Y	Z
	TYPE/NO. CYL.	V6	V8	V8	V8	V8	V8	V8
	NO. CARB. BARRELS	2	2	4	4	4	2	4
	VALVE ARRANGEMENT	IN HEAD						
	VALVE LASH	0" HYDRAULIC						
Front 61.3"	BORE (INCHES)	3.800	3.736	4.000	4.361	4.000	4.000	4.120
Rear 60.0"	STROKE (INCHES)	3.400	3.480	3.480	3.385	3.000	3.000	3.750
	PISTON DISPLACEMENT							
	CUBIC INCHES	231	308	350	403	301	301	400
	LITRES	3.8	5.0	5.7	6.6	4.9	4.9	6.6
	COMPRESSION RATIO	8.0	8.4	8.2	7.7	8.1	8.1	8.1
	FIRING ORDER	1-6-5-4-3-2						
	PCV VALVE	CV770C	CV774C	CV774C	CV679C	CV792C	CV792C	CV679C
	AIR FILTER	A329C	A349C	A348C	A212CW**	A329C	A329C	A542C
	SPARK PLUG	R46TSX	R45TS	R45TS	R46BZ	R45TSX	R46TSX	R45TSX
	FUEL FILTER	GF471	GF471	GF471	GF471	GF471	GF471	GF471
	THERMOSTAT TEMP. SPEC.	195° F. (91° C.)						
	PCV FILTER	FB73	FB59	FB59	FB56	FB59	FB59	FB59

*FIFTH DIGIT OF VEHICLE IDENTIFICATION NUMBER LOCATED AT THE LOWER LEFT OF THE WINDSHIELD

**A329C FOR ALL TRANS AM MODELS

CAPACITIES (APPROXIMATE)

FUEL TANK		U.S. Gal.	Litres	Imp. Gal.
All		20.8	78.7	17.3
COOLING SYSTEM		Radiator Cap — AC RC27		
Engine Code*	Radiator	U.S. Qt.	Litres	Imp. Qt.
A	All	14.0	13.2	11.6
G	Std.	17.2	16.2	14.3
G	H.D.	17.8	16.8	14.8
L (Exc. Air Cond.)	Std.	17.2	16.2	14.3
L (With Air Cond.)	Std.	17.8	16.8	14.8
L	H.D.	17.8	16.8	14.8
Z (Exc. Air Cond.)	Std.	19.7	18.6	16.4
Z (With Air Cond.)	Std.	20.3	19.2	16.9
Z	H.D.	21.7	20.5	18.0
K (Exc. Air Cond.)	Std.	17.4	16.4	14.4
K (With Air Cond.)	Std.	18.0	17.0	14.9
K	H.D.	18.1	17.1	15.0
W (Exc. Air Cond.)	Std.	20.5	19.3	17.0
W (With Air Cond.)	Std.	20.5	19.3	17.0
W	H.D.	21.0	19.8	17.4
V (Exc. Air Cond.)	Std.	19.9	18.8	16.5
V (With Air Cond.)	Std.	19.9	18.8	16.5
V	H.D.	20.4	19.2	16.9

ENGINE CRANKCASE

Engine Code*	Oil Filter	U.S. Qt.	Litres	Imp. Qt.
A	AC-PF40			
(with filter change)		5.0	4.7	4.1
(without filter change)		4.0	3.7	3.3
G, L	AC-PF25			
(with filter change)		5.0	4.7	4.1
(without filter change)		4.0	3.7	3.3
K	AC-PF45			
(with filter change)		5.0	4.7	4.1
(without filter change)		4.0	3.7	3.3
W, Y	AC-PF47			
(with filter change)		4.0	3.7	3.3
(without filter change)		4.0	3.7	3.3
Z	AC-PF30			
(with filter change)		6.0	5.6	4.9
(without filter change)		5.0	4.7	4.1

TRANSMISSION

	U.S. Pt.	Litres	Imp. Pt.
3-Speed Manual	3.5	1.6	2.9
4-Speed Manual	2.5	1.1	2.0
Automatic (Filter Screen—AC-PF195)			
Refill After Draining	6.0†	2.8†	4.9†
Refill After Disassembly	18.0†	8.5†	14.9†

† After adding fluid, check for correct fluid level using the dipstick. All fluid level checks must be made with car on level surface, engine running and transmission in Park or "N" (Neutral).

DIFFERENTIAL	U.S. Pt.	Litres	Imp. Pt.
	4.2	1.9	3.4

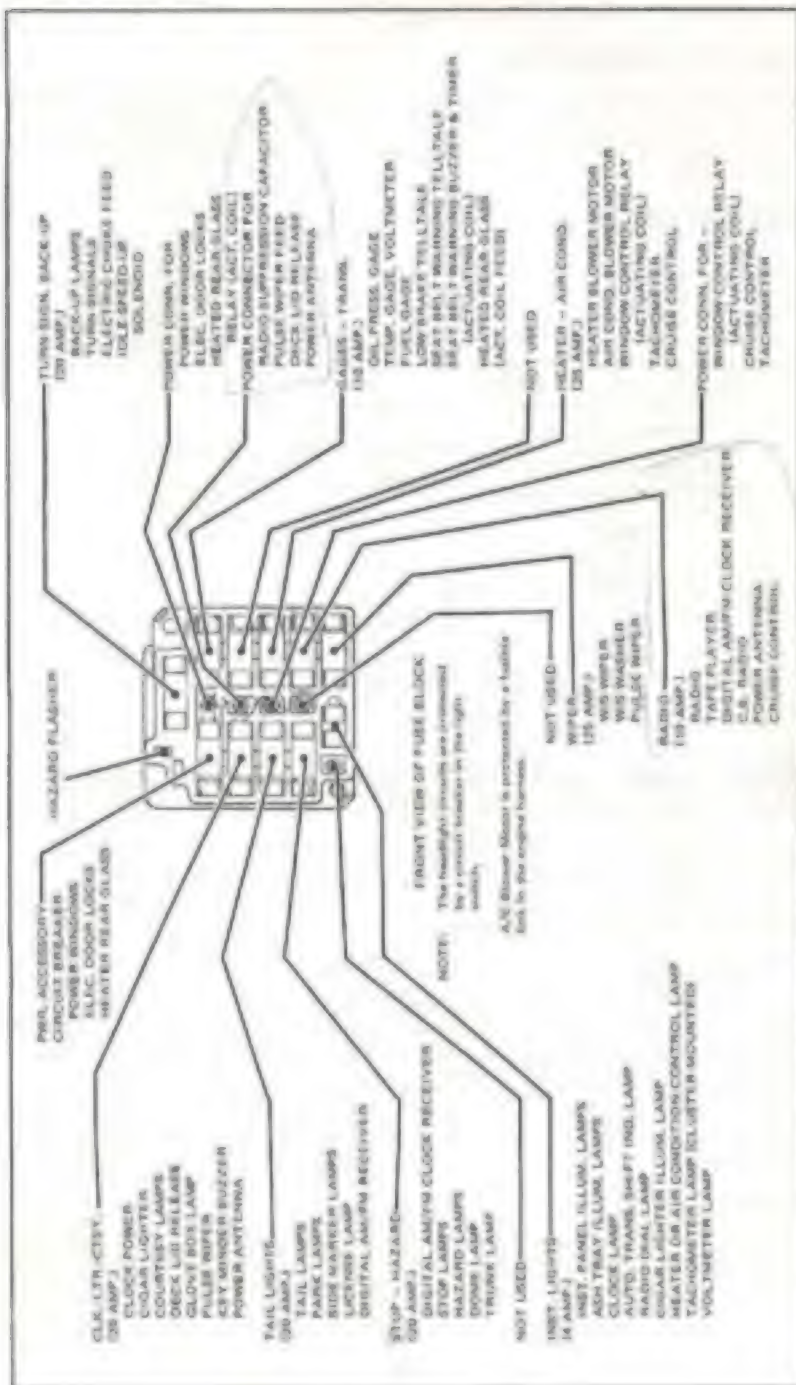
POWER STEERING SYSTEM

	U.S. Qt.	Litres	Imp. Qt.
Pump Only	0.5	0.2	0.4
Complete System	1.2	0.5	0.9

BRAKE MASTER CYLINDER

Fill to 1/4" from top using fluid meeting SAE 1703A (DOT 3) Specifications.

*The Engine Code is the 5th digit on the VIN plate located at the lower left of the windshield.



CIRCUIT BREAKERS

The headlight wiring is protected by a circuit breaker in the light switch. An electrical overload will cause the lights to go on and off, or in some cases to remain off. If this happens, have your headlight wiring checked right away.

BATTERY USAGE

ENGINE	BATTERY NUMBER	WATTS	RESERVE CAPACITY (MINUTES)
V6 (WITHOUT AIR COND. & WITHOUT ELECTRIC REAR DEFOGGER)	Y85-4	2500	60
V6 (WITH AIR COND. OR ELECTRIC REAR DEFOGGER)	R85-5	3200	80
V8-301 V8-305 V8-350	R85-5	3200	80
V8-400 V8-403	R87-5	3500	100
HEAVY DUTY (ALL ENGINES)	R89-5	4000	125

IMPORTANT FACTS YOU SHOULD KNOW ABOUT FUEL ECONOMY AND HOW TO IMPROVE IT

How you drive, where you drive, and when you drive all affect how many miles/kilometres you can get from a gallon/litre of fuel. The careful attention you give your car as far as maintenance and repairs are concerned will also help fuel economy.

Fuel Selection

Use **only unleaded** gasoline meeting Federal Government regulations. The Federal Government specifies the minimum octane number of unleaded gasoline. Unleaded gasoline must be used for proper emission control system operation. It will also minimize spark plug fouling and extend engine oil life. The use of leaded gasoline can damage the emission control system, and could result in loss of emission warranty coverage.

"Jackrabbit" Starts

Fuel can be saved (and engine and tire life prolonged) by avoiding fast starts away from lights and stop signs.

Stop-And-Start Driving

Frequent stops and starts while driving cut down on your miles per gallon (kilometres per litre). Plan even your short shopping trips to take advantage of through streets to avoid traffic lights. Pace your driving like the expert drivers to avoid unneeded stops.

Excessive Idling

An idling engine uses fuel, too. If you're faced with more than a minute wait, and you're not in traffic, it may be better to "turn off" and start again later.

Sudden Stops

Sudden stops can also waste fuel; instead of moving the car, the energy of fuel is wasted as heat in braking. Energy in the form of fuel is also needed to accelerate back to driving speed.

Lubricants

A well lubricated car means less friction between moving parts. Consult the Maintenance Schedule folder for the proper lubrication intervals.

Air Cleaner

Your car receives its power from a mixture of gasoline and air. The air enters the engine through the air cleaner. So it's important to replace the air cleaner element at required intervals. (See the Maintenance Schedule folder.) A dirty air cleaner element reduces engine performance and can waste fuel.

Air Conditioner

If your car has an optional air conditioner, use the "Economy", "Vent" or "Heater" positions whenever possible. The air conditioner compressor is not on in these positions and the reduced engine load can improve fuel economy.

Tuned Engine

Proper tuning (a check on timing, spark plugs, emission control devices, etc.) can improve your car's fuel mileage. You just can't expect an "out-of-tune" engine to give you good fuel mileage and cleaner air.

Excess Weight

Fuel economy is related to the work the engine must do. The heavier the load, the more gasoline it takes to run your car. Keep weight to a minimum by taking out any luggage or cargo when it is not needed.

Tire Inflation

Under-inflation not only causes needless wear of the tires, but can also waste fuel. It's a good idea to check tire pressures often and, for the best fuel economy, keep your tires inflated to the highest pressures shown on the Tire Placard (located on the left front door of your car).

Wheel Alignment

Improper toe alignment will cause the front tires to roll at an angle which will result in faster tire wear. It takes power to overcome this improper alignment which, in turn, wastes fuel.

AVAILABILITY OF PONTIAC SERVICE MANUALS

Current and some past model service manuals are available by completing the following Pontiac Service Literature order form and mailing to the address shown on the form.

Prices apply to owners in the United States only. Canadian residents should order publications from the Technical Publications Department, General Motors of Canada Limited, Oshawa, Ontario L1J 5Z6.

Pontiac Service Manuals no longer in stock are reproduced on 35 MM positive film. If you desire a manual no longer available, request information from GM Photographic Engineering Center, Microfilm Department, 30001 Van Dyke Avenue, Warren, Michigan 48090.



PONTIAC SERVICE LITERATURE

MANUALS COVERING THE MAINTENANCE, SERVICING AND REPAIR OF 1979 AND EARLIER MODELS CAN BE PURCHASED BY FILLING OUT THIS ORDER FORM AND MAILING IT WITH CHECK OR MONEY ORDER PAYABLE TO: (Do Not Mail Stamps)

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2000 WEST EIGHT MILE ROAD
FERRISDALE, MICHIGAN 48220

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- 1979 Pontiac Service Manual Supplement
(S-7910). Complete coverage for 1979
model requires above supplement and
(S-7804) listed directly below.
- 1978 Pontiac Service Manual (S-7804)
- 1978 Fisher Body Manual (7910-B)
- 1979 Owner's Manual
(State Model - Catalina, Bonneville, etc.)

PRICE
EACH TOTAL

\$ 4.50

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SORRY WE HAVE NO FACILITIES FOR C.O.D. MAILINGS

ADD COST OF MANUALS ORDERED FROM LIST BELOW TO TOTAL AMOUNT OF ORDER ON REVERSE SIDE.

QUANTITY	PRICE EACH	TOTAL	QUANTITY	PRICE EACH	TOTAL
1978 Pontiac Service Manual (S-7504)	\$14.00	—	1963 Tempest Chassis Manual (6304-T)	\$4.50	—
1978 Fisher Body Manual (7604-B)	7.00	—	(Includes Automatic Trans.)	—	—
1977 Pontiac Service Manual (S-7704)	12.00	—	1963 Body Manual (6304-B)	3.50	—
1977 Fisher Body Manual (7704-B)	7.00	—	1963 Air Conditioning Manual (6304-AC)	3.50	—
1976 Pontiac Service Manual Supplement (S-7604). Complete coverage for 1976 model requires above supplement and either (S-7504) or (S-7504-H)	4.00	—	Owner Manuals are available for the following years:		
1976 Fisher Body Manual (7604-B)	7.00	—	1978 Owner's Manual	1.25	—
1975 Pontiac Service Manual (S-7504)	10.50	—	(State Model - Catalina, Bonneville, etc.)	—	—
1975 Pontiac Air Service Manual (S-7504-H)	6.00	—	1977 Owner's Manual	1.25	—
1975 Fisher Body Manual (7504-B)	6.50	—	(State Model - Catalina, Bonneville, etc.)	—	—
1974 Pontiac Service Manual (S-7404)	7.50	—	1976 Owner's Manual	1.25	—
1974 Fisher Body Manual (7404-B)	3.50	—	(State Model - Catalina, Bonneville, etc.)	—	—
1973 Pontiac Service Manual (S-7304)	7.00	—	1974 Owner's Manual	1.25	—
(Includes Mid-Year Emission Changes)	—	—	(State Model - Catalina, Bonneville, etc.)	—	—
1973 Fisher Body Manual (7304-B)	3.50	—	1973 Owner's Manual	1.25	—
1972 Pontiac Service Manual (S-7204)	8.00	—	(State Model - Catalina, Bonneville, etc.)	—	—
1972 Fisher Body Manual (7204-B)	3.50	—	1972 Owner's Manual	1.25	—
1971 Pontiac Service Manual (S-7104)	6.00	—	(State Model - Catalina, Bonneville, etc.)	—	—
(Specify if Ventura II) <input type="checkbox"/>	—	—	1971 Owner's Manual	1.25	—
1971 Fisher Body Manual (7104-B)	3.50	—	(State Model - Catalina, Bonneville, etc.)	—	—
1970 Pontiac Service Manual (S-7004)	7.00	—	1970 Owner's Manual	1.25	—
(Specify if FIREBIRD) <input type="checkbox"/>	—	—	(State Model - Catalina, Bonneville, etc.)	—	—
1970 Fisher Body Manual (7004-B)	4.50	—	1969 All Models	1.25	—
1970 FIREBIRD Fisher Body Manual (7004-FB)	1.50	—	1968 All Models	1.25	—
1966 Fisher Body Manual (6604-B)	3.50	—	1966 All Models	1.25	—
1964 Pontiac & Tempest Body Manual (6404-B)	3.50	—	1965 All Models	1.25	—
1964 Pontiac & Tempest Air Conditioning Manual (6404-AC)	3.50	—			

There are some older issues available. Your inquiry accompanied with a stamped self-addressed envelope will be promptly answered.

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SERVICE STATION INFORMATION

Refer to "Service and Maintenance" Section for Further Details.

FUEL CAP - Located behind an access door in the center of the rear panel above the rear license plate. See fuel cap removal procedure in "Service and Maintenance" Section.

FUEL RECOMMENDATION - Use **unleaded gasoline** only.

HOOD RELEASE - Located in the front bumper center area. To open, pull release handle sharply. If, in opening, hood catches on safety catch, press down on hood while pulling on release lever, and raise hood manually.

ENGINE OIL DIPSTICK - Located on the right or left side of the engine block. Check the engine oil level when the oil is warm, such as during a fuel stop. Keep the oil level above the "Add" line on the dipstick.

ENGINE OIL RECOMMENDATION - Use only SE quality oils. See "Service and Maintenance" section in this manual for oil viscosity chart.

TIRE INFLATION PRESSURES - Check at least monthly. Keep inflated to pressures shown on the Tire Placard located on the left front door of your car.

WINDSHIELD WASHER - Check reservoir fluid level regularly. Use a washer fluid, such as GM Optikleen.

BATTERY - Your new car has a Delco FREEDOM battery. You will never have to add water. The hydrometer (test indicator) in the cover provides information for testing purposes only.

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